ANL/DIS-03-2

CHEMICAL STOCKPILE EMERGENCY PREPAREDNESS PROGRAM

RECOVERY PLAN WORKBOOK

Disclaimer

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RECOVERY PLAN WORKBOOK

Developed by
Argonne National Laboratory
Decision and Information Sciences Division

for

U.S. Army Soldier and Biological Chemical Command
Federal Emergency Management Agency
CSEPP Reentry and Recovery Working Group

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1 INTRODUCTION

1.1 Purpose of This Workbook

The Recovery Plan Workbook is designed for use by U.S. Army chemical installations and state and local authorities who participate in the Chemical Stockpile Emergency Preparedness Program (CSEPP). The workbook includes a model recovery plan that provides a template for preparation of an integrated CSEPP recovery plan. The workbook also provides background, explanatory, and reference materials to aid planners.

The model plan provides a general example and framework for planning but is not complete without input from the local CSEPP community. Each chemical stockpile location has site-specific needs, resources, and organizational differences that will shape recovery planning. Therefore, the purpose of the model plan, in part, is to raise questions that installation, state, and local planners will have to answer to develop a site-specific recovery plan.

It is recommended that a single, overarching recovery plan be developed to coordinate the activities of the installation, state, and local jurisdictions at a given site. As stated in *Planning Guidance for the CSEPP*, Appendix M, "The reentry/restoration plan should be integrated and coordinated among the Army installation and other state and local jurisdictions in the IRZ and PAZ." The integrated approach is more efficient from a planning perspective (compared to separate, parallel plans for each jurisdiction) and will facilitate coordination among the organizations. To be effective, many aspects of recovery must also be coordinated. For example, if several jurisdictions submit competing requests to the Army for monitoring services, confusion might result, and some important monitoring activities might be delayed. A coordinated plan would ensure that monitoring is conducted in proper order of priority.

A single integrated recovery plan can be designed to accommodate the decision-making prerogatives of all included organizations. Jurisdiction-specific annexes may be appropriate in some cases to accommodate the unique needs of particular jurisdictions.

1.2 Context of Recovery from a Chemical Event

It is impossible to predict the exact situation that would follow in the aftermath of a chemical event. Much would depend on the origin of the event, the severity of the event, the response to it, and other parameters such as the weather. Some circumstances can be anticipated in advance, however, and this workbook is based on those assumptions to a considerable extent. Planning for recovery should take account of the probable circumstances and should incorporate measures to address the issues they will raise.

It should be noted that a chemical event may or may not involve a release of chemical agent, and when a release occurs, it may or may not be enough to be detectable or pose a hazard off-post. A recovery process should be considered for any chemical event in which the public is notified of an emergency. However, the recovery process will be simpler if, after the situation is

assessed, it is determined that either no release or a minimal release occurred. This workbook is not based on any assumption as to the severity of the event; rather, it is intended to cover the full range of chemical events, from purely precautionary notices to severe events involving significant hazards off-post.

1.2.1 General Assumptions

The following assumptions apply to any chemical stockpile emergency that involves the off-post community, whether or not an actual release of chemical agent is confirmed:

- If any area has been evacuated or access to it restricted, there will be pressure to re-open it so that people may return to their homes and businesses.

- Once protective actions of any kind have been issued, the population near the facility will want reassurance that the area is safe.

- Recovering from the medical, social, psychological, and economic impacts of the event will take much longer than the physical process of recovery.

- Recovery operations and decisions will be subject to intense scrutiny from news media and from elected officials at the state and federal levels.

1.2.2 Assumptions for Severe Events

For severe events where there is a significant release of chemical agent and a possibility that it was transported off-post, it can be anticipated that there will be uncertainty as to the nature and extent of any residual hazard. Protective actions will likely have been initiated based on assumptions as to the amount of agent released (e.g., the maximum credible event [MCE]), combined with computer modeling of its dispersal. The process of determining whether there is any residual hazard will likely take a few days to a few weeks. If investigation at the scene of the event reveals no releases, that period might be reduced. If investigation or monitoring indicates a possibility of aerosol deposition, that period might be increased.

In such an event, off-post officials would have a number of concerns relating to monitoring, sampling, hazard assessment, and protective actions during the recovery period, specifically, the following:

- Concern for residual agent vapor. The agent vapor released by an accident is carried downwind and dissipates soon after the release is controlled, except possibly within buildings where vapors might linger for a short period. There is also the remote possibility that materials inside of buildings might absorb agent vapors if vapor concentrations were extremely high, such as close to the site of the release, thus posing a temporary residual hazard even though there is no longer a hazard outdoors.

- Concern for aerosol deposition. Under some circumstances, it is possible that chemical agent would be dispersed as an aerosol (very small droplets) and subsequently deposited as contamination on downwind surfaces off-post. Studies have shown that this event is unlikely; if such an event did occur, however, it would be limited to a small area near the installation. An unusual combination of factors is needed to make aerosol deposition a possible health risk beyond the installation boundary: detonation of a number of explosively configured munitions filled with persistent agent ("nerve gas" [VX] or mustard), combined with a fire hot enough to cause the munitions to detonate and carry the aerosols well above ground level in a heated plume. In addition, the right atmospheric conditions are needed to transport the aerosol significant distances in order for the droplets to fall beyond the installation boundary.

- Concern for unprotected persons remaining in the restricted area. It is likely that some persons would remain in the area at risk regardless of the protective action instructions they were given. These persons might require help in relocating.[1]

- Concern for special populations in pressurized shelters. Special populations might need outside assistance to resolve health and safety issues at their location before they are free to exit the shelter.

- Concern for additional releases. In some scenarios, there might be a slight possibility that additional releases would occur over time, for example, as damaged munitions are being handled during site cleanup.

- Concern for other hazards caused by the chemical event. The chemical event might cause secondary hazards in the affected area. For example, rapid evacuation of the population might leave some industrial facilities or critical infrastructures vulnerable to loss or damage that, in turn, could pose a health and safety threat. Traffic accidents on evacuation routes in the hazard area might create situations in which to save lives, a response would be needed in a potentially hazardous area.

- Concern for other hazards not caused by the chemical event. Disasters such as earthquakes or tornadoes might cause or contribute to a chemical event, create separate response requirements, and complicate the chemical event response.

- Concern for those who evacuated from areas that were never at risk. Because of the conservative assumptions built in to the protective action decision-making process, it is likely that many people would need to be evacuated from areas that were never dangerous. This population would strain resources to provide care and shelter for evacuees until they return home.

[1] See Yantosik et al., (2001), p. 46, para. 5.4.1.

1.3 Structure and Contents of the Workbook

The remainder of this workbook consists of two main parts: a model plan and a set of annexes.

The model plan consists of 11 sections: promulgation materials, a basic plan, and 9 function-specific sections. The basic plan summarizes the overall purpose, assumptions, and responsibilities for recovery operations. It defines basic aspects of implementation such as how recovery efforts are initiated and ended, and how the recovery plan relates to the emergency phase response plan. The basic plan also addresses administrative issues such as authority for planning and response, exercises and drills, and mechanisms for revising and updating the plan. Following the basic plan are the function-specific sections. These sections address specific aspects of recovery operations and outline how they will be implemented. Each functional section includes a statement of purpose, concept of operations, function-specific details, and lists of responsibilities for key organizations and officials.

Supplementing the model plan is a set of annexes. Annexes A through O address a number of topics that directly relate to recovery and restoration activities. The topics include technical resources, social service resources, summaries of applicable laws and regulations, and other items of interest for recovery planning. The annexes are intended to provide background materials for planners and can also serve as a basis for developing site-specific implementation procedures for the recovery plan. Annex N contains a list of CSEPP-related acronyms. Annex O contains a bibliography of recovery-related documents and information sources.

1.4 Using the Workbook

1.4.1 The Reentry/Recovery Planning Process and Planning Team

The model plan is designed to accommodate user input, and, in fact, the plan is incomplete without additional information that only the user can provide. A planning team should be assembled to develop a customized, site-specific plan from the model plan.

Ideally, the reentry/recovery planning team should include representatives of the installation, local jurisdiction(s), and state(s). Appropriate officials of these organizations, and technical and legal experts as requested by the planning team, should review the draft reentry/ recovery plan.

1.4.2 Creating a Site-specific Recovery Plan

The model plan is designed to serve as a template or outline for creating a customized, site-specific, integrated recovery plan. The basic components of a recovery plan are included, but they will need to be expanded with specific local information to create a site-specific plan. The symbol [=>] indicates places where it is anticipated that the user will insert local-specific

information. In addition, the model plan contains explanatory materials throughout the text. *Explanatory material is in italics to distinguish it from the plan text. Italicized text is not intended to be incorporated into the plan and should be deleted when the plan is complete.*

The wording, organization, and all other aspects of the model plan are intended as suggestions only and should be modified to fit the user's needs. The design, format, and use of graphics in the model plan were deliberately kept simple to facilitate manipulation of the document.

The model plan was designed as a stand-alone plan and can be developed as such. Alternatively, the plan can be attached as an annex to other response or recovery plans. Similarly, function- or organization-specific procedures or annexes can be added to the recovery plan.

As noted in Section 1.1, a single integrated recovery plan is recommended. Because such a plan can span several organizations, it is important that it be specific with respect to what positions and agencies, at what levels, will make key decisions and carry out key functions. Throughout the model plan are entries that stand for particular jurisdiction names or position titles. These entries are *underlined and in italics*. For example the phrase *name of jurisdiction* is used where a jurisdiction's name (e.g., "Smith County" or "State of Jones") would go, and *chief executive* is used where a finished plan would contain the applicable position title such as "Installation Commander," "Governor," or "County Board Chair." Depending on local arrangements, at some points in the plan these phrases might be replaced with the name of a committee or a general phrase such as "each organization." Generic agency names such as *social service agency* or *environmental protection agency* are used where particular agency names should appear.

Development of a recovery plan will likely require site-specific information on land use, population demographics, presence of special populations and facilities, and so on. Annex A contains a list of possible sources for such information.

1.5 Recovery in an ICS-based Organization

The model recovery plan in this document is intended to be compatible with various types of chemical event response plans and organizational schemes, including the incident command system (ICS). Annex M provides a brief overview of the relationship between recovery planning as embodied in the model plan and the ICS method of response organization.

For those organizations intending to use the ICS during recovery operations, the model plan includes ICS-based responsibilities for each recovery function. Like all other aspects of this document, these subsections are only suggestions and should be modified as desired to fit local needs. Please note that the ICS-based responsibilities only include actions that would be performed during recovery from a chemical emergency, whereas the position- and organization-based responsibilities also include (in some cases) planning functions that should be performed prior to an emergency. Therefore, organizations that plan to use the ICS for chemical emergency

recovery may find that *both* the ICS-based and the position- and organization-based responsibility lists are relevant for recovery planning.

A chemical stockpile accident or incident with potential or actual agent impacts off-post raises a series of interjurisdictional challenges regarding the issue of "who is in charge" in both the response and recovery phases of the incident. The ICS provides a means to meet those challenges, whether it is organized as a single or unified (multiagency, multijurisdictional) command. A key element in effectively applying ICS is first understanding who the Incident Commander works for. In general ICS terms, the Agency Administrator is the authority that has jurisdiction over and responsibility for the role the Incident Commander takes in the management of an incident. In other words, the Agency Administrator is the person for whom the Incident Commander works when assigned to an incident. (In a CSEPP application, the Agency Administrator could be a County Commissioner, State Governor, Secretary of Defense, the President, or other key officials. Under a unified command structure, the Agency Administrator could be a member of a local, state, and federal government.)

The Agency Administrator is not only responsible for the incident's outcome but also is responsible for other activities that can occur as part of the job. The Incident Commander is responsible to the Agency Administrator for the administration and management of the assigned incident, and all activities that occur on the incident.

The agency can be represented specifically within the ICS in two additional ways. First, the Agency Advisor is the individual designated by the Agency Administrator to work directly with the Incident Commander. Second, the Agency Representative is the individual who represents the Agency Administrator on specific policy matters from the agency. Generally, the Agency Representative will not be assigned at a level between the Incident Commander and the Agency Administrator. This position most often comes into play when resources are assigned to a non-jurisdictional incident and representation of the agency is important. The Agency Representative usually works with the Liaison Officer, an ICS Command Staff position.

The value of applying the ICS to CSEPP response and recovery is that it is neither a unique nor an untested system. It is applied to civilian incidents involving fire, hazardous materials, law enforcement, search and rescue, mass causalities, etc. ICS training is available nationwide at a range of levels (i.e., Introduction [ICS-100], Basic [ICS-200], Intermediate [ICS-300], Advanced [ICS-400] and ICS-402 for Executives). From a military perspective, ICS provides a welcome structure to civilian response.

The bibliography in Annex O includes general references on the ICS.

MODEL RECOVERY PLAN

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2 MODEL RECOVERY PLAN

2.1 PROMULGATION

2.1.1 Approval by Designated Authorities

The attached recovery plan is hereby approved as the basis of integrated chemical event recovery operations for *names of organizations*.

_____ _____

(name and title of chief executive) Date

Jurisdiction A

_____ _____

(name and title of chief executive) Date

Jurisdiction B

_____ _____

(Name, Commander) Date

Installation Name

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2.1.2 Record of Revisions

Date	Pages Revised	Pages Updated by: (*name*)

2.1.3 Distribution List

Organization	Contact Information (*position or title, address, telephone, email*)	Date and Copy No.

2.2 BASIC PLAN

2.2.1 Purpose

This recovery plan is designed to support activities that occur in the recovery phase following a chemical event at *name of installation*. The term "recovery" includes measures to assess the hazard and perform other urgent tasks in the area affected by the emergency. It is a controlled process for reentry, restoration, and remediation; and it provides services to persons, businesses, and other organizations affected by the emergency. The primary purpose of recovery activities is to protect public health and safety while returning the community to normal conditions.

2.2.2 Relationship between Emergency Response and Recovery

Emergency response and recovery have the same overall goal — protecting public health and safety and the environment. Emergency response focuses on immediate protective measures to mitigate the source of the hazard and to prevent or minimize the public's exposure to the hazard. Reentry and recovery focus on returning life in the affected area to normal, while ensuring that safety and health standards are maintained. Although it is sometimes convenient to refer to emergency phase activities and recovery phase activities, there is no distinct boundary between the two phases. Activities to support reentry and recovery begin as soon as possible after a chemical event, as information is gathered to analyze the hazard and resources are activated to support the affected population.

2.2.3 Definitions

Hazard area: An area where there is or has been a chemical agent hazard, according to computer dispersion modeling and/or monitoring results.

Recovery: Recovery is a phase of emergency management. Recovery includes both short- and long-term activities. Short-term recovery activities can include reentry to the restricted area to perform vital missions; hazard assessment (monitoring and sampling); and provision of services to meet the immediate needs of evacuees and other persons affected by the emergency. Long-term recovery activities can include continuing hazard assessment, environmental remediation, social services for persons affected by the emergency, compensation for persons and organizations that suffered financial losses, and other activities to restore the community to a normal or near-normal state.

Restricted Reentry: Temporary, short-term admission of persons into a restricted area for the purpose of performing some essential task.

Unrestricted reentry: Unrestricted admission of the public into a previously restricted area.

Restricted area: An area subject to protective actions involving restriction on entry; generally, an area in which the public has been advised to evacuate or to shelter-in-place and then relocate. The restricted area contains the hazard area and is usually larger than it.

2.2.4 Related Plans

This plan has been developed consistent with other plans affecting recovery from a chemical event, including *local and state CSEPP response plans*, the *name of installation* Chemical Accident/Incident Response and Assistance (CAIRA) plan, the Service Response Force (SRF) Commander's Plan, the National Contingency Plan (NCP), and the Federal Response Plan (FRP).

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(*Include other relevant plans*.)

2.2.5 Direction and Control

The County/State Chief Executive will make decisions regarding reentry to off-post restricted areas and lifting of general population protective actions. *Name of jurisdiction* will take the lead in coordinating provision of *County/State* services to persons and organizations affected by the emergency.

The U.S. Army will take the lead with respect to hazard assessment, including environmental monitoring, sampling, and evaluation; cleanup of residual hazards and other response and remediation under the NCP; and payment of claims for compensation by persons or organizations that suffered financial losses as a direct result of the emergency. Army operations will be directed initially by the Installation Commander; subsequently, direction of some or all of these functions may be transferred to the SRF Commander.

The Federal Emergency Management Agency (FEMA) will coordinate provision of disaster assistance under the Stafford Act and the FRP.

The U.S. Department of Justice (DOJ) will take the lead in crisis management and investigation both on-post and off-post in the event of terrorist or criminal activity associated with a chemical incident.

The *U.S. Department of Agriculture (USDA) and Food and Drug Administration (FDA) and/or State Department of Agriculture, State Department of Health, State Department of Environmental Protection* will take the lead with respect to developing and implementing protective measures for food, water, and drugs.

All agencies and jurisdictions involved in recovery will coordinate recovery operations through the Executive Group, Technical Group, Operations Group, and such other groups and committees as may be formed to facilitate recovery.

(*Note: completing the first paragraph of this section will depend on local circumstances and what organizations are included in the recovery plan. The decision-making roles of state and local chief executives vary from state to state and can change depending on the declaration of a state or local State of Emergency. The state emergency management statute generally will control those functions; Annex L has brief summaries of the statutes for the CSEPP states.*

In general, state-wide direction and control are recommended for the reasons stated in the workbook introduction (Section 1). In the fifth paragraph, responsibilities for protection of food, water, and drugs can be at the federal or state level depending on whether state agencies have received federal approval to be the enforcement authority under the applicable statute.)

2.2.6 Recovery Organization

The recovery organization will include the following groups: Executive Group, Operations Group, and Technical Group.

The Executive Group will consist of the *Installation Commander* and the following state/local officials: *Chief Executive*, *Public Information Officer*, and the heads of the *Emergency Management Agency*, *Environmental Protection Agency*, *Law Enforcement Agency*, and *Public Health Agency*. The Executive Group will assist with recovery decision making and coordinate with other jurisdictions and organizations.

The Operations Group will consist of representatives of the Installation operations staff and the following state/local agencies: *Emergency Management Agency*, *Environmental Protection Agency*, *Law Enforcement Agency*, *Hazardous Materials Response Agency*, and *Public Health Agency*. The Operations Group will advise the Executive Group and will manage implementation of recovery actions. The Operations Group will maintain contact and coordination with operations groups at other involved organizations, as well as the Joint Information Center (JIC).

The Technical Group will consist of representatives of the Installation technical staff and the following state/local agencies: *Emergency Management Agency*, *Environmental Protection Agency*, and *Public Health Agency*. The Technical Group will advise the Executive Group and Operations Group on technical issues associated with recovery and will coordinate with the U.S. Army, the Regional Response Team, and other organizations involved in hazard assessment and remediation.

(*The model plan is couched in terms of these groups throughout. The mix of agencies and officials appropriate for each group will vary by site. If operating in an ICS-based environment, the recovery organization structure may have different labels, but essentially the same functions will be represented.*)

2.2.7 Plan Maintenance

This plan will be reviewed regularly and revised as necessary. The *CSEPP Planner or other designated staff person* will be responsible for initiating the review. The plan will be circulated to *relevant organizations and officials* with a request for comments every two years. The plan will also be reviewed when significant demographic changes occur in the community being protected, when the potential for an accident or incident changes, or when capabilities to recover from a chemical event change. The revised plan will be developed, reviewed, approved, and distributed using the same protocols used for publication of the initial recovery plan.

2.2.8 Training

The *Installation Commander* and *Chief Executive or Emergency Management Director(s)* will encourage all agencies or departments to provide appropriate training for recovery activities. Training may also be needed for volunteer organizations or outside organizations that provide assistance through mutual aid agreements. The recovery training program will be integrated with CSEPP emergency response training and other emergency preparedness training programs.

Training programs or modules pertaining to recovery operations include:

=> _____
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_____

(*List any training programs or modules available to staff that are relevant to recovery operations. Examples include the following courses and modules available through the Emergency Management Institute [EMI]: E210 [Recovery from Disaster], E208 [State Coordinating Officer], E288 [State Donations Management], E354 [Basic Crisis Counseling Grant Program], E376 [State Public Assistance Operations], E901 [IEMC/All Hazards: Recovery and Mitigation], E925 [IEMC/State: Response and Recovery], G358 [Evacuation and Re-entry Planning], G270.2 [Federal Response Plan], G270.4 [Recovery from Disaster: The Local Government Role], G385 [Disaster Response and Recovery Operations], and IS630 [Introduction to Public Assistance Process]. Further information about these and other emergency management training courses can be obtained from the FEMA training resources portal webpage*, http://www.training.fema.gov/.)

2.2.9 Exercises

Name of installation and *names of jurisdictions* will exercise the full range of their capabilities for recovery from a chemical event, including this plan and the personnel, equipment, and other resources required to implement it. Recovery exercises will be evaluated, and the evaluation results will be used as a basis for improving recovery capability. The format and schedule of recovery exercises will be as follows:

=> _____
_____
_____

(*The recovery plan should be exercised periodically. A recovery exercise can be conducted in conjunction with a CSEPP response exercise or as a stand-alone activity. Parts of the recovery plan that should be tested include hazard assessment, restricted and unrestricted reentry, personnel protection, ingestion pathway protection, medical services, social services, public information, claims and disaster assistance, and environmental remediation.*)

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2.3 HAZARD ASSESSMENT

After emergency protective actions have been implemented, depending on the particular circumstances of the chemical event, residual hazards might be present, including residual chemical agent vapor or, in rare cases, aerosol deposition. Hazard assessment during recovery will estimate the residual hazard.

2.3.1 Purpose

Assessment of the hazard to public health and safety in the affected area will serve as a basis for allowing reentry by emergency teams and for determining when unrestricted reentry can occur, whether ingestion pathway protective measures are needed, and whether cleanup measures will be required. Hazard assessment will primarily be conducted by the Army, but *names of jurisdictions* will work with the Army to ensure that hazard assessment resources will be directed where they are most needed.

2.3.2 Concept of Operations

Hazard assessment for recovery involves determining the extent of residual hazard posed by chemical agent, including localized residual vapors as well as any contamination of water, soil, vegetation, crops, animals, buildings, vehicles, and other objects.

The Installation will gather data at the scene of the chemical event to identify the agent involved and estimate the quantity of agent released (if any) and how it was dispersed (e.g., whether there was fire or explosion). Computer modeling will be used to estimate the areas affected by vapor passage and by aerosol deposition, if any. Monitoring and sampling will be used to check for residual agent in specific locations.

The Army has trained personnel, equipment, and procedures for monitoring and assessing agent contamination, including specific capability and institutional experience in chemical agent detection and in operating under conditions of actual or potential agent contamination.

The Technical Group will advise the Executive Group on what monitoring, sampling and evaluation should be performed to assess the possibility of residual hazard, assure public safety, and provide a basis for decisions regarding reentry and recovery. The Executive Group will coordinate among the organizations to provide for requested monitoring, sampling, and evaluation. Authority will be provided, as needed, to allow Army personnel to enter private property to perform monitoring and/or collect samples. Law enforcement personnel will be tasked to accompany and assist monitoring teams where needed to ensure access to private property.

Initially, there might be an urgent need for monitoring to support the entry of emergency response teams into the restricted area to assist persons who did not evacuate. If such assistance is needed in the restricted area, real-time monitoring will be used to establish whether the teams are properly protected for the environment in which they are operating. Procedures for access to restricted areas are described in Section 2.4.

If requested by the Army, the U.S. Environmental Protection Agency (EPA) can assist with hazard assessment through its extensive network of contract resources for monitoring, sampling, and laboratory sample analysis. Such assistance may require cooperation with the Army regarding sample transport and provision of laboratory standard samples (used for calibration of laboratory instruments) of chemical agents.

The *State/local Environmental Protection Agency* has teams that are appropriately trained, qualified, and equipped to accompany Army personnel performing monitoring and sampling. These personnel will accompany Army technical teams to verify that correct procedures are followed and that appropriate sample collection and chain-of-custody protocols are observed.

(*Note, the last paragraph should be included only where a state or local jurisdiction has the intent and resources to perform this function. As stated in the CSEPP Planning Guidance, Appendix M:*

> *CSEPP Policy Paper No. 2 established program policy on environmental monitoring and sampling in the event of a chemical accident or incident. Pursuant to CSEPP policy, "[t]he Army, as the On-Scene Coordinator, will be responsible for sampling soil, air, and water to check for contamination by chemical agents." The policy paper allows State and/or local personnel to accompany the Army sampling teams as long as they are properly trained, qualified and equipped.*

Alternatively or additionally, a jurisdiction could choose to develop an independent capability to assess chemical agent hazards. Adding this capability would involve training, equipping, and qualifying personnel, including backup teams if the intent is to operate in areas that have not yet been cleared, and arranging for sample analysis at either Army or other governmental or private laboratories. A listing of agent-certified laboratories is provided in Annex G.)

2.3.3 Monitoring and Sampling Priorities

After a chemical event, the Executive Group, with advice from the Technical Group, will determine whether and where monitoring and sampling will be performed; they will also prioritize areas on the basis of circumstances known at the time.

To ensure that recovery proceeds as quickly as possible and is consistent with public health and safety, off-post monitoring and sampling will be prioritized to support (1) reentry to the restricted area to perform vital missions; (2) allowing access to specific transportation

corridors, utilities, and other critical infrastructures as soon as possible; (3) progressively clearing areas for unrestricted reentry; and (4) assuring public safety with respect to key locations.

In general, unless monitoring is urgently needed to support a vital mission, monitoring and sampling within off-post projected hazard areas (areas where an agent plume has passed according to computer projections) will begin approximately 24 hours after the release is terminated. This time is needed to accommodate the organization and equipping of sampling teams; to develop specific priorities, protocols, and locations for monitoring and sampling; and to set up the infrastructure to deploy the teams safely. Allowing some time for the dissipation of short-term hazards provides a truer picture of any residual hazard of concern for reentry decisions. Also, it avoids putting monitoring and sampling teams at unnecessary risk.

2.3.3.1 Performance of Vital Missions in the Restricted Area

In a restricted area in which individuals have been evacuated (or relocated after an initial sheltering period), it might be necessary to perform missions vital to public health and safety prior to reentry. For example, persons might not have been able to leave and therefore require assistance or an emergency repair to collective protection equipment. The first priority for monitoring is to accompany responders who perform such missions. In support of such missions, real-time monitoring for residual agent would be performed to allow responders to operate in the area using appropriate personal protective equipment (PPE) and to ensure that persons can be evacuated without encountering an agent hazard.

2.3.3.2 Clearing of Critical Infrastructure

The following transportation corridors and facilities are considered critical for maintaining public health and safety. Restoring access by responders and the public to these facilities is a second priority for monitoring.

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(*Some facilities and locations may merit priority for monitoring and sampling to minimize disruption of the community or provide services needed for public health and safety. Examples include:*

- *Major highways, railways, waterways or irrigation structures*
- *Water intake or treatment plants*

- *Medical facilities*
- *Electric, gas, communication, or other utility structures that require operation or maintenance by personnel*

The particular facilities or locations affected depend on the chemical event scenario.)

2.3.3.3 Progressive Clearing for Unrestricted Reentry

Monitoring will be performed to support the decision process for unrestricted reentry to areas restricted during the initial set of emergency protective actions. Monitoring will be performed in phases to allow those areas not at risk to be quickly opened for reentry, and to concentrate monitoring resources where results will be the most useful for decision-making.

Initial hazard predictions and emergency protective actions will likely be based on an assumption as to the amount of chemical released. For events associated with agent operations, the MCE for the daily work plan would be used. For events not associated with active operations, such as an event detected during non-duty hours, a standard "non-operational event scenario" or other default assumption would be used. As installation personnel respond to the event, they will be better able to determine whether a release actually occurred and its true source term. Once this information is known, a new hazard assessment will be performed. In most cases, the new hazard assessment will result in a revised source term that is smaller than the initial, assumption-based source term, which will lead to a smaller projected hazard area.[2] In light of these probabilities, four distinct zones have been identified for purposes of reentry decisions, monitoring, and sampling:

- Reentry Area 1: Areas outside of the initial projected hazard area. These areas were evacuated because they were part of a protective action area impacted by the projected hazard area.

- Reentry Area 2: Areas inside the initial projected hazard area, but outside the revised projected hazard area, which is determined after the post-accident assessment.

- Reentry Area 3: Areas inside the revised projected hazard area.

- Reentry Area 4: Areas that are potentially contaminated with aerosol deposition. These areas can only exist in some very specific scenarios and will likely be quite small compared with the area where a vapor plume might have traversed.

These four areas are illustrated in Figures 1 through 6. The figures depict a hypothetical chemical depot and the community near the depot, divided into a number of predesignated

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[2] (*The term " projected hazard area" is used to denote the area that might be affected by an agent plume, according to computer modeling. It can be a "wedge" if D2PC [an Army computer model] is used for plume modeling, or a "risk envelope" if D2-Puff™ [an updated Army computer model] is used.*)

protective action areas or "zones." (*In other words, these are the units of area that would be directed to evacuate or take shelter in an emergency. Local plans might refer to those areas as zones, subzones, sectors, or another term. They are generally depicted in public information materials with letter designations such as A1, B2, and so on*.)

To clear the largest area for unrestricted reentry in the least possible time, the priority for monitoring and sampling will generally proceed from the outside in (i.e., Reentry Area 2, then 3, then 4). In some cases, it might be possible to clear both Reentry Areas 2 and 3 by monitoring in Area 2.

The Technical Group will coordinate with Army personnel to determine priority locations for monitoring based on where residual hazards would most likely be found under the circumstances at the time.

2.3.3.4 Clearing of Other Priority Locations

In conjunction with progressively clearing areas for unrestricted reentry, the following locations will be specifically monitored to confirm they are safe:

=> _____
_____
_____

(*It may be desirable to list particular types of facilities to be specifically monitored. This list will depend on local circumstances and priorities. The particular facilities or locations affected will depend on the chemical event scenario and the projected hazard area. Examples of the types of facilities that might be on such a list include:*

- *Hospitals and nursing homes*
- *Schools and daycare centers*
- *Residential areas*
- *Major businesses*
- *Farms and food production or storage facilities*
- *Water treatment facilities.*)

Figure 1 shows an example of an initial and revised plume projection and associated hazard areas. The figure depicts irregular plumes and safety envelopes as would be projected using the D2-Puff™ software.

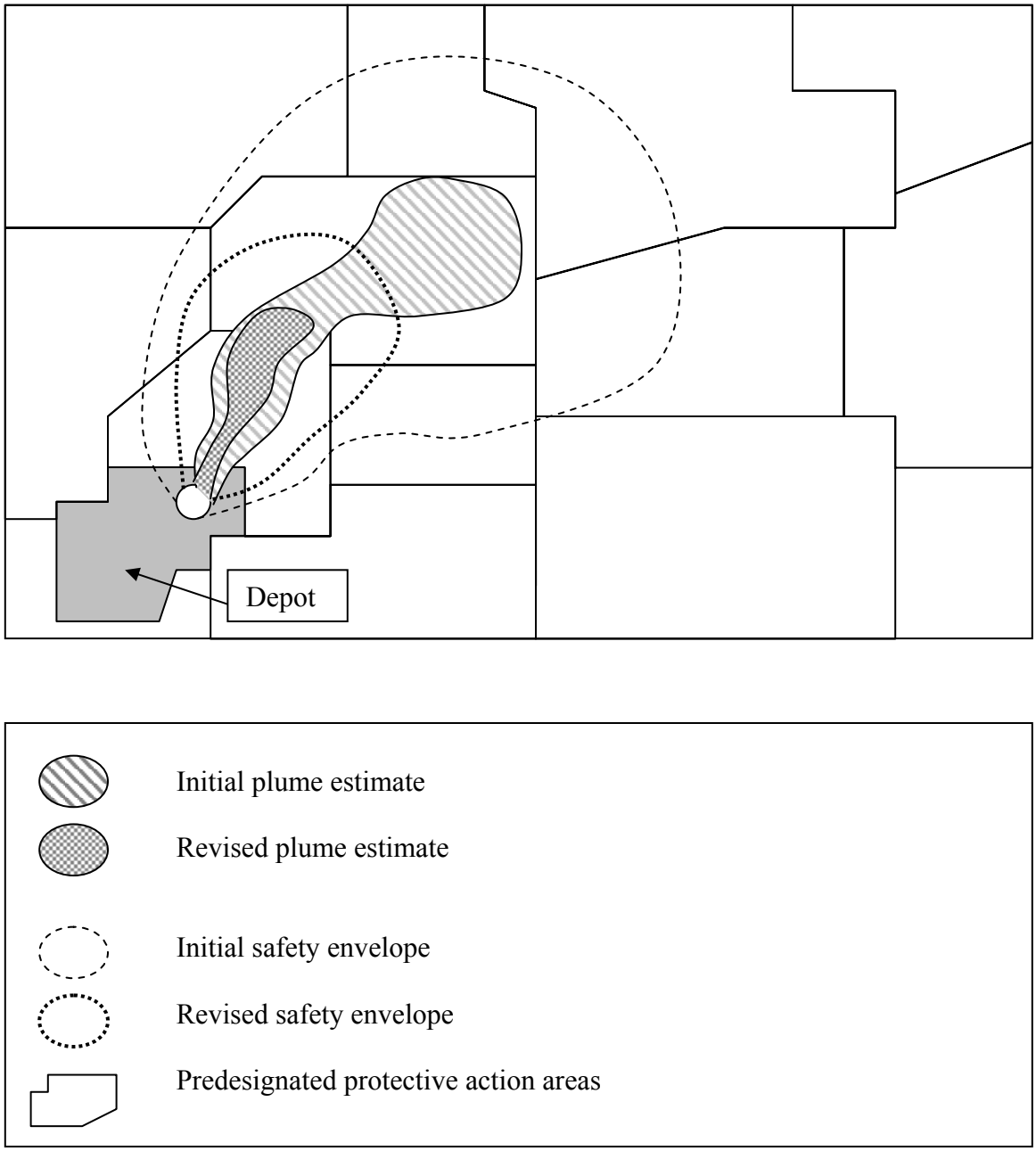

Figure 1 Initial and Revised Plume Estimates and Safety Envelopes

Figure 2 shows the area that would be evacuated (or sheltered in place) based on the example hazard area. The shaded area includes each predesignated protective action area that is touched by the projected hazard area (safety envelope).

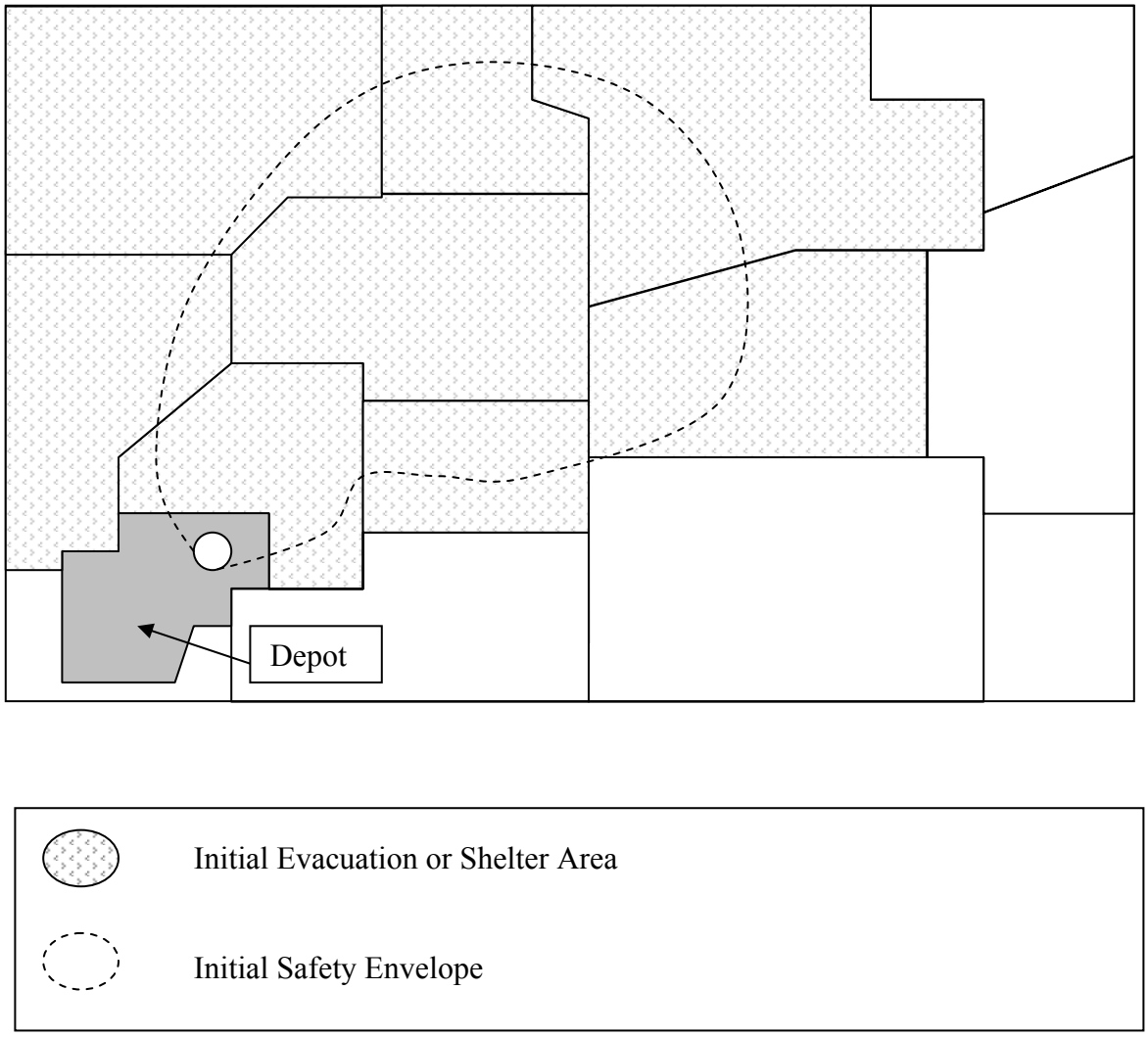

Figure 2 Initial Evacuation or Shelter Area

Figure 3 shows Reentry Area 1. Reentry Area 1 represents an area that, according to the initial, conservative hazard estimate, was not exposed to chemical agent. It is the area outside of the initial projected hazard area but within the predesignated protective action areas that the hazard area touched. Protective actions were taken in this area because of the predesignated protective action area structure, but at no time was agent projected to have affected this area. Reentry Area 1 can be cleared for unrestricted reentry as soon as the hazard has been contained on the installation.[3] No monitoring of Reentry Area 1 is required because agent was never projected to enter the area.

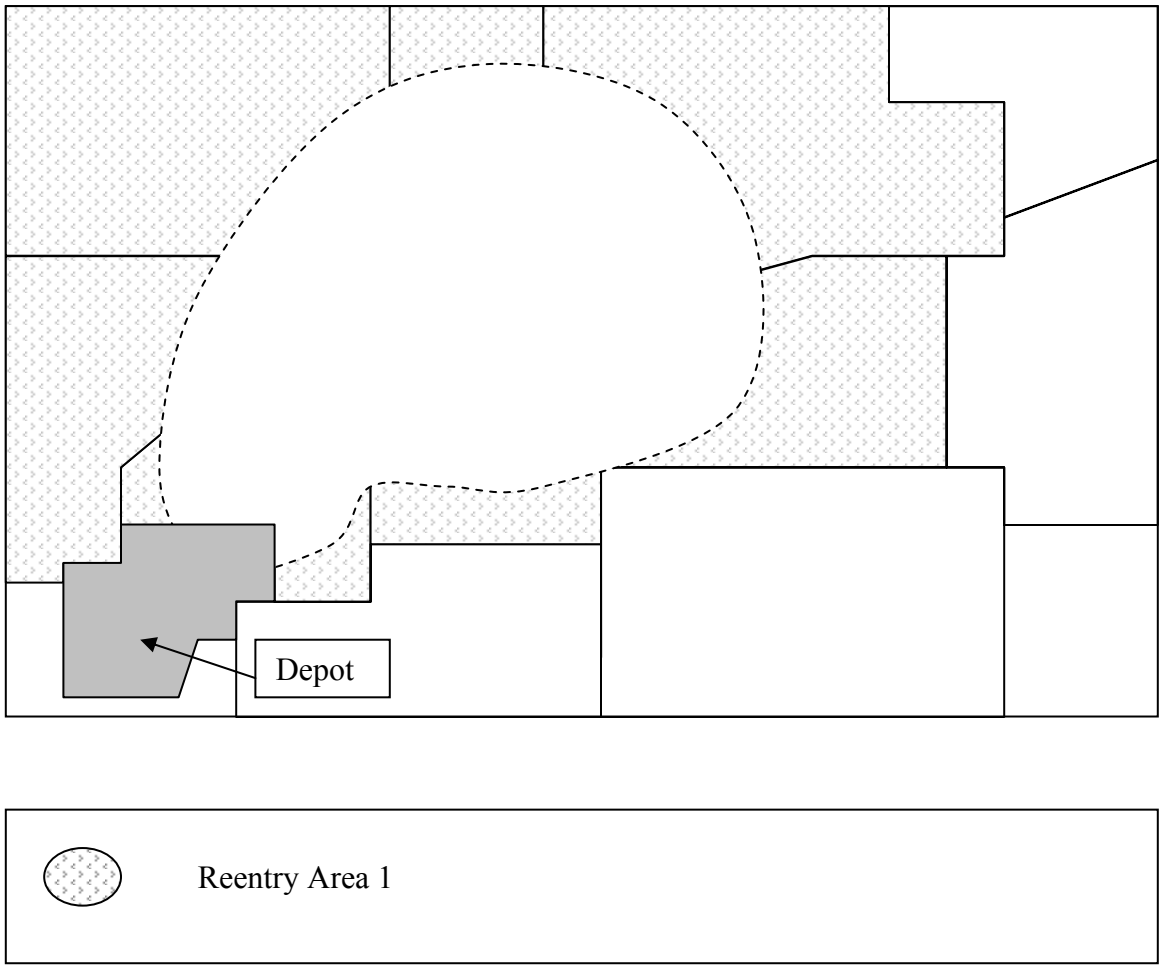

Figure 3 Reentry Area 1

[3] Unrestricted reentry might be delayed if on-post cleanup and recovery operations pose a risk of agent release. For example, moving damaged munitions might release agent and require that reentry be postponed until the operation is completed.

Figure 4 shows Reentry Area 2, which is the area inside the initial projected hazard area (safety envelope) but outside of the revised hazard area. The logical assumption is that Reentry Area 2 is also safe to enter without monitoring because on the basis of the updated source term information, no hazard is projected in that area. However, since the public might have been told initially that agent could have entered this area, further actions might be appropriate to assure that it is safe to reenter. Selected sampling and analysis might also be needed to offset concerns about perceived damages, especially to agricultural resources.

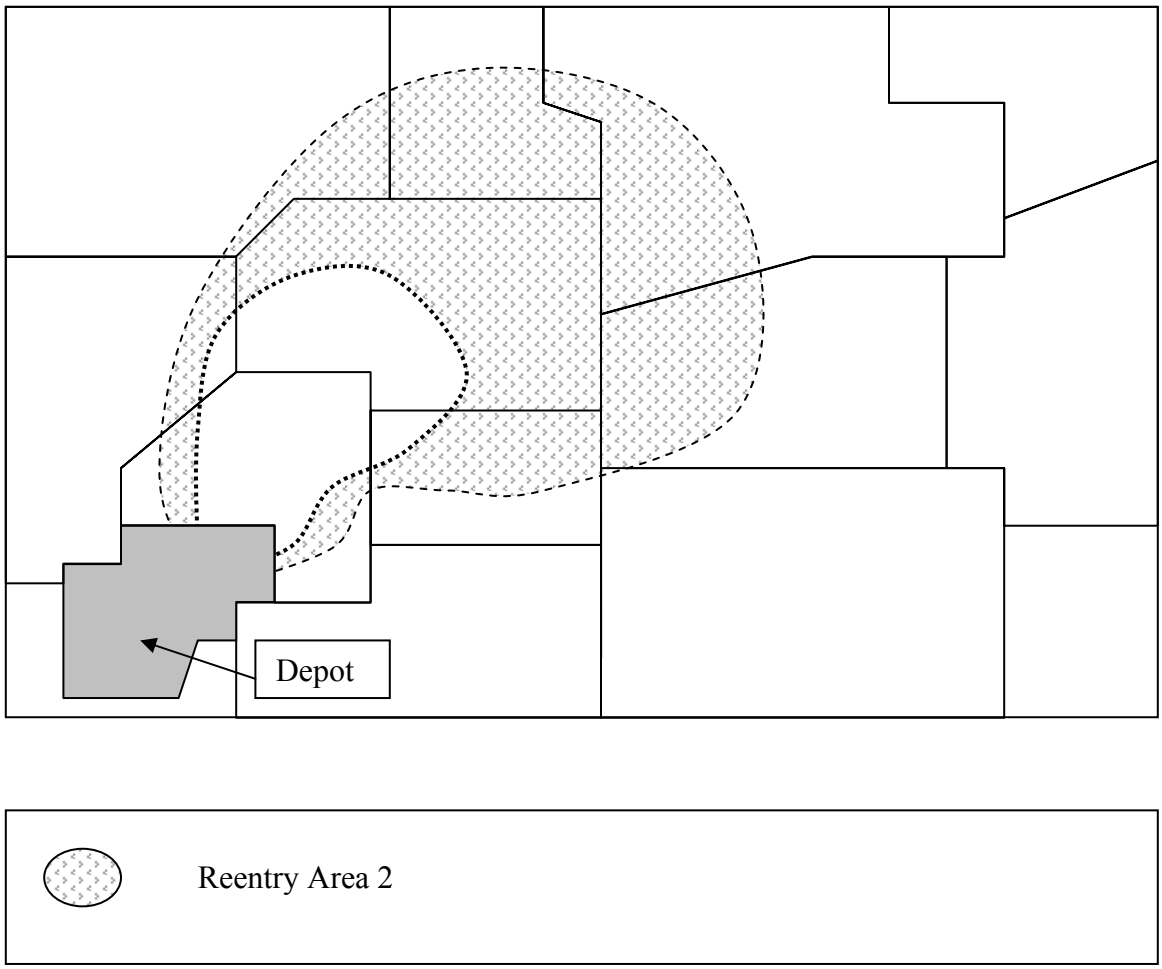

Figure 4 Reentry Area 2

Figure 5 shows Reentry Area 3, the area within the revised projected hazard area. Based on modeling with D2-Puff™, vapor hazards might have been present in that area before the plume dissipated. Prior to unrestricted reentry, selective air monitoring is performed within this area in locations where agent vapors could linger (e.g., inside structures). In addition, soil, water, vegetation, and other surface material monitoring and sampling can be performed (even if model projections do not suggest the possibility of agent deposition) to allay concerns over public safety and offset perceived damage to agricultural products and other property in the area.

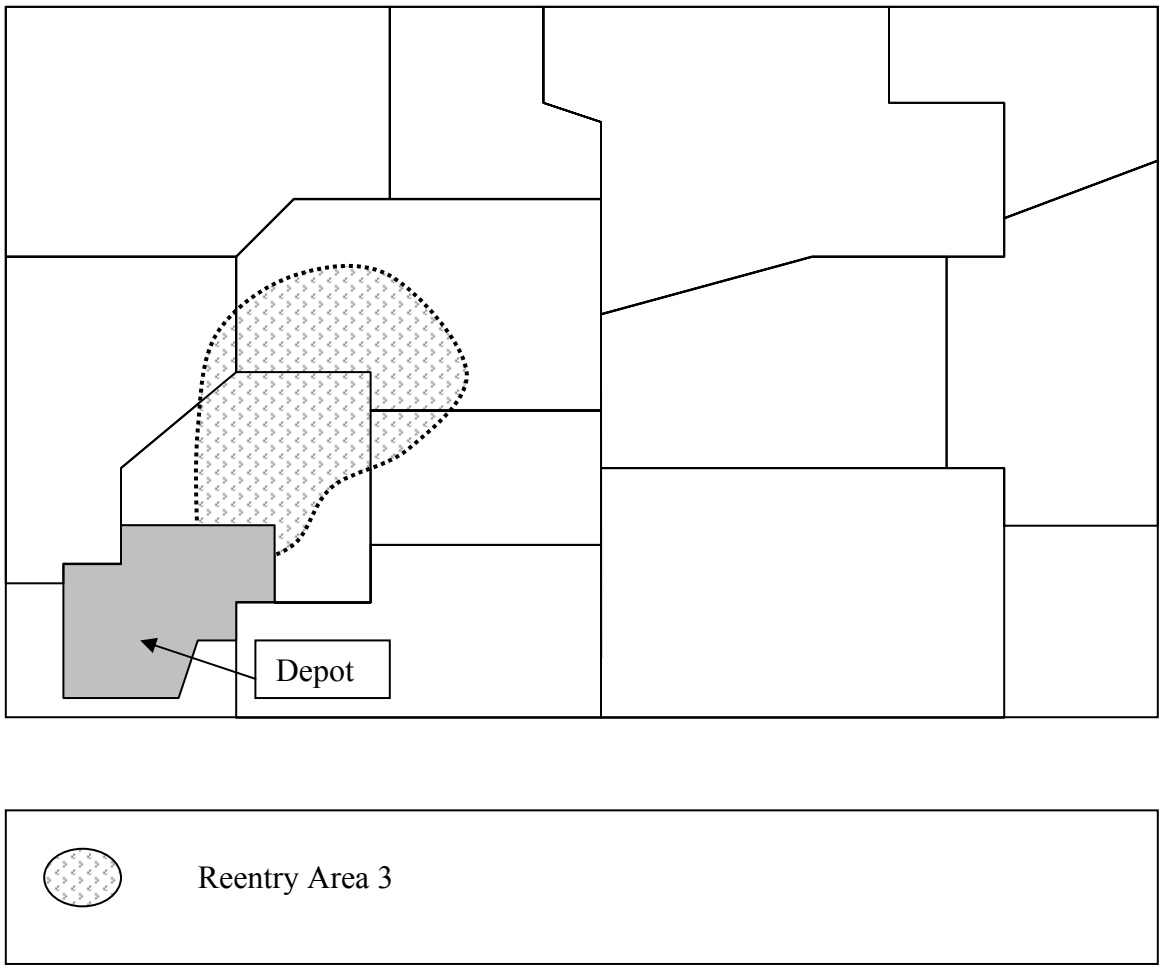

Figure 5 Reentry Area 3

Figure 6 shows Reentry Areas 3 and 4 for a scenario involving the possibility of aerosol deposition. Reentry Area 4 is the area that is potentially contaminated with deposited agent. This area only exists in specific scenarios involving a fire that affects explosively configured HD (distilled sulfur mustard, a blister agent) or VX. The area of potential aerosol deposition is expected to be relatively small and close to the source. When it is determined that there may be such deposition, a more comprehensive program of air, soil, surface, and water sampling may be required to ensure that the public can safely return to the area. A long-term restoration effort may be required in the affected area.

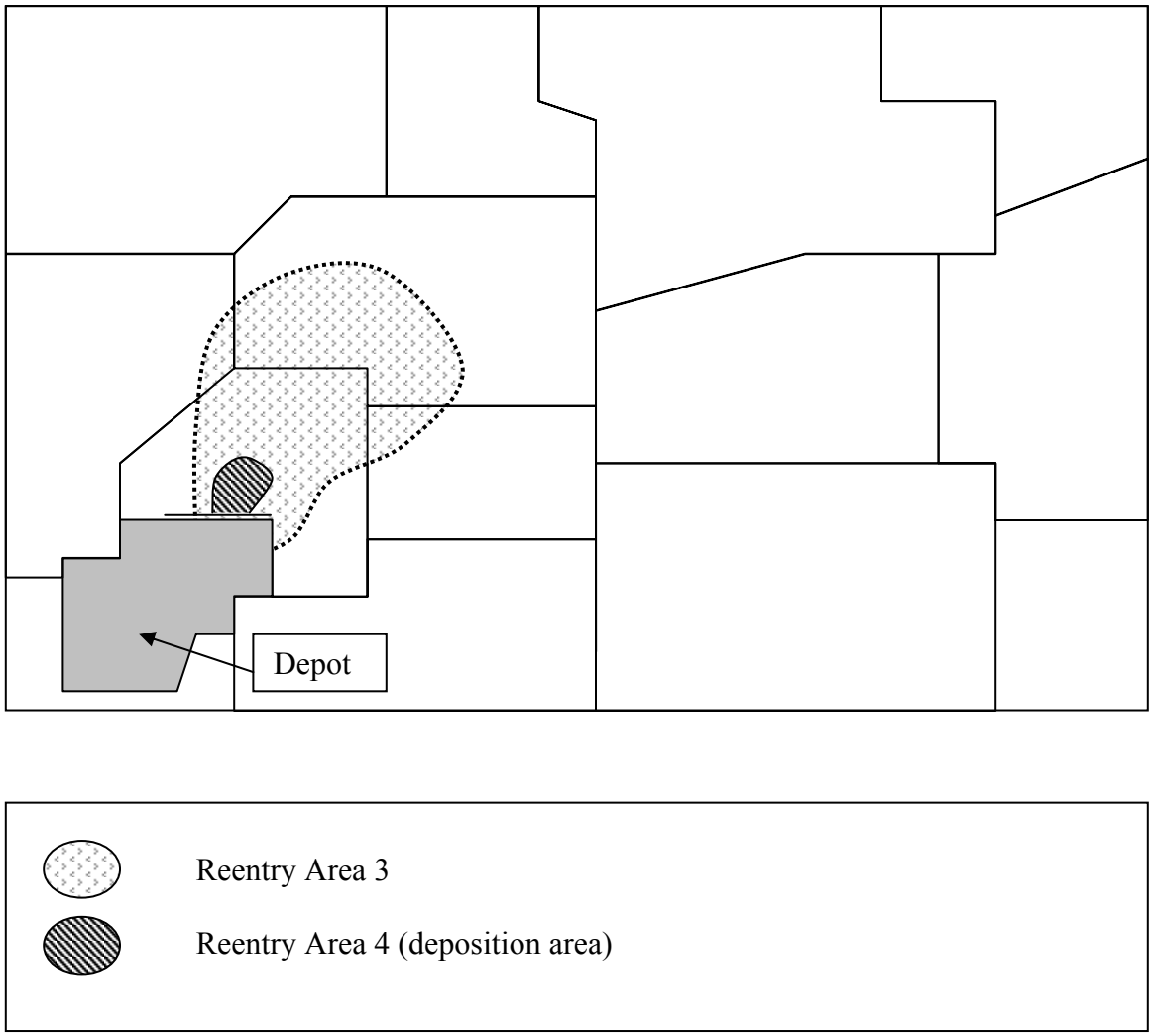

Figure 6 Reentry Areas 3 and 4 in Deposition Scenario

2.3.4 Monitoring and Sampling Resources

The following monitoring and sampling resources are expected to be available to support recovery operations:

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(*The above should be completed on the basis of the resources available to the installation. Air sampling assets that are the most immediately available are already at the chemical storage sites. Each installation has several mobile real-time analytical platforms (RTAPs), with trained operators, that can be deployed off-post within 2–8 hours after a chemical accident. Some sites have agreements with other chemical storage sites to borrow additional RTAPs and RTAP operators in an emergency. These can be deployed to the accident site within 12–24 hours after they are requested and can be operational in the field 4–8 hours after arrival. In addition, the Army SRF can arrange for several RTAPs and operators to relocate to the accident site within approximately 24–48 hours. When deployed, each RTAP can provide low-level, near-real-time air sampling results for a specific location at a specific time at the rate of approximately four samples per hour. The actual output rate depends on the travel time between air sampling locations, crew changes and equipment maintenance requirements, weather, availability of lighting during hours of darkness, adequacy of communications links between field teams and hazard analysts, and whether the efficiency of the instruments and the work-rest cycles of the operators will be depreciated by working in a contaminated environment. The utility of the results depends in part on the opportunity for access to private property and/or difficult to reach cross-country locations, and limitations on deployment to areas where other hazards might be a consideration. Local planners should consult with chemical storage site officials to determine the actual capability of the Army to sample air off-post should an accident occur at that site. All things considered, it might be possible to sustain air sampling operations off-post that produce results at the rate of 12–24 discrete locations per hour for an indefinite period after the first day.*

Other instruments (e.g., hand-held monitors and detectors) are capable of detecting hazardous vapors, but they are either less sensitive or take longer to obtain results and might require laboratory support. Some of these instruments can be useful in ensuring that first responders avoid areas where their PPE will not protect them; these instruments are less useful, however, in deciding if areas or structures are suitable for unrestricted occupancy. It is possible that new technologies have recently been incorporated into air sampling devices that will offer capabilities better than described above or in the CSEPP Monitoring Integrated Process Team (IPT) report, but none has been accredited for CSEPP use as of the date of this workbook.

Surface sampling (including water) involves laboratory analysis. This element introduces additional logistical operations that will delay results, as discussed in the CSEPP Monitoring IPT report. On the other hand, many technicians around the country are trained and can be equipped to take samples for laboratory analysis, and a number of laboratories can process the samples. Annex G gives a listing of laboratories capable of handling chemical agent samples. As

when planning for air sampling, recovery planners should consult with the Army about the local output rate for surface samples collected by Army responders or by operators from other organizations (e.g., EPA) deployed at the request of the Federal On-Scene Coordinator. All things considered, it is reasonable to expect to sustain surface sampling operations at the rate of 24 or 36 discrete locations per hour for an indefinite period after the first day, but there will probably be an additional 24- to 72-hour lag time from the collection of a sample to the completion of the laboratory analysis. Details of the sample processing protocols, such as elaborate chain-of-custody procedures, split sampling, and formal laboratory quality assurance/quality control (QA/QC), might increase the lag time by an additional 24 to 48 hours. The effective rate of sample processing will depend on the throughput rate at each laboratory, which in turn will depend on a number of factors, including equipment available, need to reconfigure equipment, the medium of the samples being processed, the priority given to processing these samples, and other factors. As with air sampling, weather, visibility, communications capabilities, agent contamination, other hazards, and access to sample sites can affect the rate at which surface samples are collected. Moving portable laboratories to the field can significantly reduce lag time to process samples. Only a handful of portable laboratories are probably deployable to an accident site in less than a week.

Note that the CSEPP Monitoring IPT report calls for development of a site-specific monitoring plan: "It is essential that at each storage location a coordinated off-post monitoring plan be developed that addresses actions to be taken in the event a chemical event occurs. Coordination and applicable agreements must include the Army Chemical Activities, the counties, the state, and federal agencies. The agreement should define the expected equipment, procedures, and coordination. It should separate response requirements from recovery requirements." [CSEPP Monitoring IPT report, p. iv.] The Monitoring IPT report discusses equipment requirements for the types of monitoring missions outlined in the workbook and provides a sample monitoring plan in an appendix.)

2.3.5 Responsibilities by Position/Organization

Installation Commander

1. Prior to any emergency, work with off-post jurisdictions that wish to have personnel accompany Army monitoring and sampling teams, per the provisions of CSEPP Policy Paper #2.

2. In a recovery situation, ensure that data from on-post monitoring and sampling are shared with off-post technical and emergency management staff. In events with a possible criminal aspect or other security concern, data will be shared only to the extent compatible with Section 11-5.b of Army Regulation (AR) 50-6.

3. Work with the Technical Group and the Executive Group to develop a priority scheme for hazard assessment. Secure resources through Army channels to perform monitoring and sampling to support off-post protective action decision making.

4. Work with the Technical Group and the Executive Group to assist off-post decision makers in defining areas for unrestricted reentry and relaxing protective actions as appropriate.

5. Coordinate with state/local law enforcement agencies to obtain access to private areas for performing monitoring and sampling, as necessary.

6. Direct and supervise implementation of the Monitoring and Sampling Plan.

Chief Executive or Emergency Management Director

1. Work with the Technical Group, the Executive Group, the Army, and other involved jurisdictions to develop a priority scheme for hazard assessment.

2. Work with the Technical Group, the Executive Group, the Army, and other involved jurisdictions to define areas for unrestricted reentry and relax protective actions as appropriate.

3. Request the Army to provide monitoring and sampling to support reentry to evacuated areas.

4. Coordinate with the Army and state/local law enforcement agencies to obtain access to private areas for performing monitoring and sampling, as necessary.

5. Direct implementation of the Monitoring and Sampling Plan.

Primary Technical Organization: Environmental Agency

1. Work with the Technical Group to define areas for unrestricted reentry and develop recommendations on relaxing protective actions.

2. Work with the Technical Group to develop priorities for monitoring and sampling and recommend resources to be requested from the Army.

3. Work with the Technical Group to implement the Monitoring and Sampling Plan.

4. Assign personnel to accompany, monitor, and assist Army teams in performing monitoring and sampling collection activities. (*Provided this function has been incorporated into planning and teams with the appropriate qualifications, training, and equipment are available to operate in the target environment. See Section 2.4 below*.)

Law Enforcement

1. Work with the Army to ensure that monitoring and sampling teams have access to locations where they need to perform monitoring and sampling.

Hazardous Materials Team

1. Work with the Army and environmental agencies to support entry team decontamination, as needed.

2.3.6 ICS-based Responsibilities

Incident Command

1. Ensure that data from on-post monitoring and sampling is shared with off-post technical and emergency management staff. In events with a possible criminal aspect or other security concern, data will be shared only to the extent compatible with Section 11-5.b of AR 50-6.

2. Work with Command staff, Planning Section, and Operations Section to develop a priority scheme for hazard assessment. Secure resources through Army channels to perform monitoring and sampling to support off-post protective action decision making.

3. Work with Command staff, Planning Section, and Operations Section to define areas for unrestricted reentry and relax protective actions as appropriate.

4. Coordinate with state/local law enforcement agencies to obtain access to private areas to perform monitoring and sampling, as necessary.

5. Direct and supervise implementation of the Monitoring and Sampling Plan.

Planning Section

1. Define areas for unrestricted reentry and develop recommendations for relaxing protective actions.

2. Develop priorities for monitoring and sampling and a list of resource needs for monitoring and sampling. Coordinate resource needs through the Logistics Section. The Army will be the primary supplier for monitoring and sampling services.

3. Develop a Monitoring and Sampling Plan.

4. Work with the Operations Section to implement the Monitoring and Sampling Plan.

Operations Section

1. Assign personnel to accompany, monitor, and assist Army teams in performing monitoring and sampling collection activities. (*Provided this function has been incorporated into planning and teams with the appropriate qualifications, training, and equipment are available to operate in the target environment. See Section 2.4*.)

2. Ensure that monitoring and sampling teams have access to locations where they need to perform monitoring and sampling.

3. Work with the Army and environmental agencies to support entry team decontamination, as needed.

Logistics Section

1. Provide resources to support monitoring and sampling teams (e.g., vehicles, communications, shipping, as needed).

Finance/Administration

1. Track contracts and costs for any contract-support sampling teams or analytical laboratories used in hazard assessment.

2.4 ACCESS TO RESTRICTED AREAS

2.4.1 Purpose

Access to evacuated areas will be controlled until these areas are cleared for unrestricted reentry, to prevent possible exposure of the public to residual hazards within the area. Emergency workers and others who must enter restricted areas will be protected from potential exposure to residual hazards through access management and use of PPE. The *Incident Commander* will determine priorities for access to restricted areas and will ensure that emergency teams entering the restricted area use appropriate PPE and follow appropriate safety procedures.

2.4.2 Assumptions

- Control of access to evacuated areas will have been initiated during emergency response.
- Some specific missions will require immediate access to restricted areas to preserve human life and health.
- Displaced residents and business persons will press for a quick return to the affected area.
- News organizations will press for access to the restricted area.
- Monitoring and evaluation to confirm the safety of evacuated areas will likely proceed in phases. If significant chemical agent concentrations occurred off-post, some areas will take days to weeks to clear.

2.4.3 Concept of Operations

Access to affected areas will be controlled to protect public health and safety; to secure the area; and to allow monitoring, sampling, recovery and cleanup operations to proceed. Access and reentry will be coordinated among jurisdictions and agencies to provide continuing, effective perimeter control. Information will be provided to the public as to the reason for restricting the area and the progress of efforts to clear it for unrestricted reentry.

Emergency workers and others might need to enter the restricted zone prior to its clearance for unrestricted reentry. The risk of exposure to chemical agent will be minimized by eliminating unnecessary tasks or practices that carry such a risk. When such a risk is unavoidable, exposure will be minimized by use of PPE and combined with monitoring and the

availability of medical intervention as required. Entry to restricted areas will be recorded and tracked to minimize and maintain a record of risk exposure.

(*The Army has personnel trained and equipped to operate in areas contaminated with chemical agent. Extensive Army resources will be available to the SRF Commander responding to a chemical event. It might be possible to arrange for Army personnel to perform necessary tasks within the restricted area, as a substitute for local or state personnel, depending on the time available and the types of duties to be performed. Alternatively, it might be necessary to consider what plans and policies are needed to address protection of (1) first responders, including personnel from other jurisdictions who may be assisting through a mutual aid agreement; and (2) persons needed to maintain, repair, or operate critical infrastructure, for example, to shut off the gas supply, operate a water filtration plant, or repair electric power lines.*)

2.4.4 Tasks and Personnel in Restricted Areas

The following tasks and personnel might be needed in restricted areas:

- Tasks
  - Search and rescue/evacuation assistance
  - Law enforcement
  - Fire fighting
  - Infrastructure repair, maintenance, or operation
  - Monitoring and sampling for contamination
  - Decontamination and cleanup
  - Traffic and access control
- Personnel
  - Fire department
  - Emergency medical service
  - Law enforcement
  - Public works department
  - Public health department
  - Federal agency (e g., EPA, USDA)
  - Utility companies

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(*Consider the above list and edit as needed for local circumstances. Are there critical facilities within the immediate response zone [IRZ] that require operators or regular maintenance? Access to restricted areas may require use of PPE, which in turn requires training, qualification, equipment fitting, and logistical arrangements prior to an emergency.*)

2.4.5 Procedures for Access and Personnel Protection

Safety Coordinator

Name of position will be responsible for coordinating and implementing safety measures, including approving entry into restricted areas, establishing personnel protection procedures and controls, and ensuring use of appropriate protective equipment.

(*To ensure protection and tracking of persons working in the risk area, it is recommended to delegate oversight of this function to one position, such as the chief executive, health officer or a designated safety officer.*)

Access Protocol

To protect public health and safety, access to the restricted area will be prohibited, except through the following protocol:

1. Access will be allowed by permission of the Incident Commander and with concurrence from the Safety Coordinator.

2. Access will be allowed at designated entry points only. Entry points will be staffed by *designated agency*. Entry might be limited to particular routes and locations within the restricted area. The duration of missions in the restricted area might also be limited.

3. Entry point personnel will log each entry to the restricted area, including the reason for entry, level of PPE worn and monitoring equipment used, and entrance/exit times for all persons entering the restricted area. Records will be retained of all entries.

4. Entry point personnel will check that each person entering the restricted area has appropriate monitoring support, as needed; PPE and logistical support, as needed; access to communications for requesting assistance; and an estimated exit time.

5. Entry point personnel will check for documentation that each person using PPE in the restricted area is appropriately trained and qualified on the equipment.

6. Entry point personnel will be prepared to perform expedient decontamination and emergency first aid procedures for persons presenting symptoms of agent exposure.

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(*Consider establishing a formal procedure for entering a risk area, addressing the points listed above. Declaration of a State of Emergency at the local or state level will provide authority for controlling access*.)

Use of PPE

The best available equipment and training will be used to protect personnel from chemical agent hazards. Equipment to be used, personnel qualifications, training programs, and procedures for entry into possible hazard areas are described in Attachment ___. (*CSEPP-approved protective equipment is listed in Annex E.*)

Emergency worker PPE will be matched to the level of hazard as determined by computer model projections and on-the-spot monitoring. Only agent-approved Level A gear and self-contained breathing apparatus will be used where immediately dangerous to life and health (IDLH) conditions are projected or detected through monitoring. Air-purifying respirators and other Level C gear will be used in areas where agent is below IDLH levels as determined by on-the-spot monitoring.

Use of PPE will be limited to individuals who are medically qualified and trained on the specific equipment to be used.

(*The specific equipment, training and procedures to be used should be provided in an attachment to the Recovery Plan. U.S. Occupational Safety and Health Administration [OSHA] regulations have extensive requirements for emergency personnel entering an area of unknown hazard, including use of PPE, use of monitoring devices, availability of standby personnel to perform rescue, and others.*

CSEPP-specific guidance and information on protective equipment, monitoring, and procedures to support entry to hazard areas can be found in the CSEPP Planning Guidance, Appendix H [1996]; the CSEPP Off-Post Monitoring IPT report [December 1998]; and the report "How Do I Know? A Guide to the Selection of Personal Protective Equipment for Use in Responding to a Release of Chemical Warfare Agents," ORNL/TM-13343, Cheri Bandy Foust [May 1999].)

2.4.6 Responsibilities by Position/Organization

Installation Commander

1. Ensure that installation personnel performing emergency-related tasks off-post coordinate with civilian authorities with respect to procedures for access to restricted areas.

Chief Executive or Emergency Management Director

1. Oversee control of access to restricted area and ensure that public is made aware of the restrictions, the reasons for them, and progress on clearing the area for unrestricted reentry.

2. Determine or review the types of personnel and tasks that require reentry into restricted areas. Approve policies for permitting emergency workers to enter risk areas.

3. Ensure that appropriate PPE, monitoring equipment, and procedures are used. Ensure that all persons using PPE are qualified to use the equipment.

4. Designate responsibility for personnel protection and other related or support functions as appropriate among agencies and staff.

5. Ensure that policies and agreements are in place for the protection of any personnel from other jurisdictions, responding under mutual aid, who might enter the risk area.

6. Ensure that appropriate lawful written orders about the use of force are given to law enforcement officers at access control points. (*Ideally, these instructions would be prepared in advance and incorporated into the training of law enforcement officers*.)

Primary Access Control Organization: Law Enforcement

1. Control access to restricted area through staffed access control points, barricades, and other methods. Coordinate with supporting organizations to provide staff and resources for continuing perimeter control.

2. Operate entry points with assistance from other agencies.

Primary Technical Organization: Health Department or Safety Officer

1. Advise officials on personnel protection policy, including applicable occupational health regulations and guidance.

2. Work with emergency management staff (and other organizations as appropriate) in evaluating and selecting equipment and facilities to be procured, including monitoring equipment, protective clothing and equipment, and first aid and decontamination kits.

3. Work with emergency management staff (and other organizations as appropriate) to ensure that appropriate procedures are followed for equipment inventory, testing, and maintenance.

4. Develop and provide appropriate procedures and training on the use of equipment, monitoring, first aid, and other aspects of personnel protection.

5. Develop protocol and procedures for entry and exit of personnel to risk areas (*include in annex to the recovery plan*).

6. Work with outside organizations (*e.g., the Army, OSHA*) to continually assess and improve the personnel protection program.

2.4.7 ICS-based Responsibilities

Incident Command and Safety Officer

1. Oversee control of access to restricted area and ensure that public is made aware of the restrictions, the reasons for them, and progress on clearing the area for unrestricted reentry.

2. Determine or review the types of personnel and tasks that require reentry into restricted areas. Approve policies for permitting emergency workers to enter risk areas.

3. Ensure that appropriate PPE, monitoring equipment, and procedures are used. Ensure that all persons using PPE are qualified to use the equipment.

4. Designate responsibility for personnel protection and other related or support functions as appropriate among agencies and staff.

5. Ensure that appropriate protective equipment and clothing are available.

6. Ensure that policies and agreements are in place for the protection of any personnel from other jurisdictions, responding under mutual aid, who might enter the risk area.

7. Ensure that appropriate lawful written orders about the use of force (especially deadly force) to control access to restricted areas are given to law enforcement officers at access control points.

Planning Section

1. Obtain information about the degree of health threat in restricted areas. Advise Incident Command and the Operations Section about health threats and appropriate monitoring and PPE to ensure worker safety.

2. Coordinate Army resources (*and any others available*) to perform hazard monitoring in support of worker entry to restricted areas.

3. Advise Incident Command and the Operations Section on use of equipment, monitoring, first aid, and other aspects of personnel protection.

4. Advise Incident Command and the Operations Section on protocol and procedures for entry and exit of personnel to restricted areas.

5. Advise Incident Command and the Operations Section on public safety-related missions that might need to be performed in restricted areas. (*For example, fire suppression or necessary maintenance or repairs to utilities.*)

Operations Section

1. Control access to restricted area through staffed access control points, barricades, and other methods.

2. Perform necessary public safety-related missions in restricted areas.

3. Implement appropriate worker safety procedures for personnel entering restricted areas, including hazard awareness, use of appropriate PPE, back-up teams, and perimeter check-in and check-out procedures.

Logistics Section

1. Ensure that medical services are available for emergency workers, including any who may suffer toxic exposure, heat injury, or other injury while operating in restricted areas.

2. Coordinate with supporting organizations to provide staff and resources, as needed, for continuing perimeter control.

Finance/Administration

1. Track costs associated with access control, including cost of perimeter control, medical care, and so forth.

2. Ensure that records are maintained that identify areas that were declared restricted; when the restrictions were imposed and lifted; and entry of emergency workers into restricted areas.

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2.5 INGESTION PATHWAY PROTECTION

2.5.1 Purpose

During a severe chemical event, chemical agent might contaminate food or water supplies off-post, thereby posing a danger to public health through ingestion. The primary purpose of ingestion pathway protection is to identify and control potential hazards to public health through the ingestion pathway. A secondary purpose is to assure the integrity of food supplies and allow the sale and consumption of uncontaminated products. Ingestion pathway protection will be directed by *name of jurisdiction*.

2.5.2 Concept of Operations

Ingestion exposure could occur if chemical agent were deposited on or absorbed into stored food, crops, food animals, or food gathered from the wild. Ingestion exposure could also result from contamination of food during production, storage, or processing, or at retailing facilities.

Ingestion exposure is considered a hazard mainly through the direct ingestion of items on which agent has been deposited in the form of aerosol droplets. Harmful amounts of agent could also be absorbed by foods stored in the open in areas subject to heavy concentrations of agent vapor for long periods. Foods that have been subject to possible deposition or heavy concentrations of agent vapor can be sampled for contamination and/or embargoed and destroyed.

Ingestion exposure through contamination of drinking water supplies is considered highly unlikely due to dilution by large volumes of water and the tendency of agents to break down in water (hydrolize). However, some sampling and analysis of drinking water may be appropriate to confirm that it is safe.

Ingestion exposure through bioaccumulation of agent (accumulation through the food chain) is also considered highly unlikely.

Ingestion pathway protection will involve:

- Identification of ingestion pathway items that might be affected.
- Assessment of the actual or potential level of contamination present.
- Protective action decision making and implementation.

Ingestion pathway hazards will be assessed and controlled by:

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(*Responsibility can lie at the federal or state level, and the agencies involved can vary from state to state. Generally, drinking water is the responsibility of the state environmental protection agency, and food safety is the responsibility of state agricultural and health departments.*

Under state emergency management laws, a declaration of emergency gives the Governor (and usually local chief executives) special power to embargo food and other goods and prevent their transport and sale.

Studies indicate that ingestion pathway contamination is a concern only in areas where there has been aerosol deposition of agents or a lengthy exposure to strong concentrations of agent vapor. Both circumstances would require an unusually severe chemical event, and concern for ingestion pathway contamination would be limited to areas very close to the installation. In the case of lengthy exposure to strong concentrations of agent vapor, it is possible that exposed food items, especially absorbent items such as bread, might absorb enough agent to be harmful, similar to the way non-food absorbent items (e.g., drapes, upholstery) might absorb.

Contamination of drinking water supplies, either from groundwater or surface water, is considered unlikely because of the effects of dilution and the tendency of agents to hydrolize in contact with water.

A discussion of the potential for agent exposure through contamination of groundwater or surface water, bioaccumulation, and other means is provided in the report, "Derivation of Health-based Environmental Screening Levels for Chemical Warfare Agents: A Technical Evaluation" (March 1999) prepared by the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM), Aberdeen Proving Ground, Maryland.

If a chemical event occurs and concern is expressed regarding contamination of food items, depending on the circumstances, it might be more practical and less expensive to simply destroy the suspect food rather than test it to establish its safety.)

2.5.3 Identification of Potential Ingestion Pathway Concerns

The following types of resources and facilities are potential concerns for ingestion pathway contamination within the IRZ:

- Residential
  - Food stored in open containers
  - Home gardens, vineyards, and fruit trees
- Retail Food, Beverage & Drug Sales and Service
  - Grocery stores, drug stores, convenience stores
  - Restaurants and catering services
  - Institutions with meal service (e.g., schools, nursing homes, hospitals)
- Wholesale Food and Beverage Sales and Service
  - Food, beverage, and drug storage and processing facilities (e.g., canneries, dairies, stockyards, warehouses)
  - Facilities for manufacturing or storing food packaging, additives, or other materials that might come into contact with food or beverages
- Agricultural and Food and Beverage Production Facilities
  - Farms, vineyards, and orchards with crops grown for direct human consumption (e.g., fruits and vegetables, grain, beans, oilseed, tobacco, herbs, spices)
  - Farms, ranches, and feedlots raising animals for human consumption
  - Fish farms
  - Dairies
  - Egg producers
  - Honey producers
  - Breweries, distilleries, vintners, bottling plants
- Articles Harvested from the Wild
  - Game fish and animals, wild fruit, mushrooms, honey, maple syrup, and herbs
- Water Supplies
  - Public water supplies
  - Private water supplies

(*A key element of ingestion pathway protective planning is identifying ways that chemical agent contamination could enter the food chain. The above list is intended as a starting point for identifying the types of resources and facilities that might be of concern. Some or all of these may be applicable to a particular site, and there may be other types not represented on this list.*

Identifying categories such as those listed above is preliminary to identifying the actual list of businesses, farms, and so on. Ideally, such a list would be compiled prior to an agent release and updated periodically. However, turnover in restaurants, stores, and so on might render that impractical.

Whether compiling a list prior to or following a chemical event, several sources are useful:

- *The site-specific Environmental Impact Statement prepared for the Chemical Stockpile Demilitarization Program*
- *Databases compiled by regulatory agencies such as the state Public Health Service and Agricultural Extension Service*
- *Industry association lists*
- *Yellow page telephone directories and Internet directories.*)

2.5.4 Authority for Ingestion Pathway Protection

Authority for ingestion pathway protective actions comes from multiple sources at the federal and state level:

- Federal food safety and inspection laws
- The federal Safe Drinking Water Act
- *State drinking water and food safety laws*
- *State Emergency Management Statute*

A number of statutes provide authority for protection of food, drugs, and water supplies against public health hazards. At the federal level, the USDA and the FDA within the Department of Health and Human Services (DHHS) are primarily responsible for food safety. The USDA inspects meat, poultry, and associated facilities such as stockyards and packing houses. Products can be detained, seized, and condemned if they are found to be "adulterated," which is broadly defined as containing ". . . any poisonous or deleterious substance which may render [them] injurious to health . . . ." (9 CFR § 301.2(c)) Any animal that has died other than by slaughter is considered adulterated, as are animals suffering symptoms of nervous system disorder, such as lack of muscular coordination (9 CFR §§ 301.2(c),(y)). Meat, as defined in the regulations, includes products derived from cattle, sheep, swine, goats, horses, mules, and other equines. Poultry includes ". . . any domesticated bird (chickens, turkeys, ducks, geese, or guineas) . . . ." (9 CFR §381.1) The regulations also provide for enforcement actions against livestock suspected of having biological residues "of a harmful substance that will render them unfit for human consumption." (9 CFR § 309.16) The USDA cooperates with states in

administering the inspection program. Most states have USDA-approved inspection programs, so that inspections are performed primarily by state personnel.

The FDA is broadly charged under the Food, Drug, and Cosmetic Act with protecting the public against adulterated foods, drugs, and cosmetics. (21 U.S.C. §§ 321, 331) The statute provides enforcement mechanisms, including issuance of injunctions against performing prohibited acts (e.g., shipping or selling adulterated items); however, the agency must obtain a court order for those. The FDA often acts by requesting that the owners of suspect items voluntarily withhold or withdraw such items from market; implicit in such a request is the possibility of enforcement action if it is not complied with (21 CFR § 7). The FDA has cooperative programs with states to administer inspections of retail food sellers, milk, and shellfish.

Authority over certain foods may stem only from state emergency powers; for example, food in peoples' homes and gardens. Such items are beyond the regulatory reach of the federally authorized food safety programs.)

2.5.5 Ingestion Pathway Exposure Hazard Assessment

The Technical Group will determine possible ingestion pathway hazards and will make recommendations to the Executive Group for protective actions and use of sampling resources, including the following:

- What areas might be affected by ingestion pathway contamination, based on the best available information as to the type, amount, and circumstances of chemical agent releases.
- What protective actions should be issued immediately to protect public health and safety and the integrity of food and water supplies.
- Locations and media to be sampled to assess ingestion pathway hazards.
- Protective actions to be added or relaxed based on analysis of samples.

Military and civilian authorities have published proposed or final standards for agent exposure (chronic reference doses), drinking water, soil, and other media. In developing recommendations for ingestion pathway protection, the Technical Group will use final civilian standards, where applicable, and will review proposed civilian standards and military standards for relevance. (*Annex F provides the current final and proposed standards*.)

2.5.6 Ingestion Pathway Protective Actions

The following protective actions can be used, where applicable, to protect public health and safety and the integrity of food and water supplies:

- Advise the general population not to eat food from gardens or food that was stored in the open or gathered from the wild in certain areas.

- Advise the general population not to drink water from certain private or public water supplies.

- Advise individuals with farm animals to place the animals on stored feed and to use covered water (if not in an evacuated or sheltered area).

- Temporarily close food, beverage, and drug processing or production facilities.

- Temporarily close drinking water intake facilities.

- Temporarily embargo food, beverages, and drugs to prevent them from being shipped from the impacted area.

- Quarantine foods, beverages, and drugs pending determination as to further action.

- Condemn and dispose of certain foods, beverages, and drugs.

2.5.7 Responsibilities by Position/Organization

Installation Commander

1. Coordinate with *the Chief Executive or Emergency Management Director* to secure resources for sampling and analysis to support ingestion pathway decision making. Oversee implementation of sampling and analysis effort.

Chief Executive or Emergency Management Director

1. Prior to an emergency, develop information on water, food, beverage, and drug resources within the IRZ that are potentially at risk of contamination by chemical agent.

2. Prior to an emergency, coordinate planning among state and federal agencies with responsibilities for ingestion pathway protection. Negotiate formal agreements as needed with respect to allocation of responsibilities among agencies.

3. During recovery from a chemical event, make protective action decisions, relating to the ingestion exposure pathway, in coordination with the Executive Group and with advice from the Technical Group. Include measures such as shutoff of water utilities, quarantine or inspection of consumables, and provision of alternate water and food supplies to displaced persons, if necessary.

4. Coordinate activities to ensure effective implementation of ingestion pathway protective actions.

5. Coordinate ingestion exposure pathway protection activities with public information personnel to ensure the public has necessary information relating to ingestion pathway hazards.

6. Coordinate with the Army and other organizations to secure resources for sampling and analysis to support ingestion pathway decision making.

7. Ensure that records are maintained of decisions and actions taken on ingestion exposure pathway protection.

Primary Implementing Organization: Agriculture or Public Health Department

1. Assemble information on local water supplies, food and drug production, processing and distribution facilities, and other information as appropriate in advance, to provide a basis for determining and implementing protective actions after a chemical event.

2. During recovery from an emergency, advise the Executive Group regarding appropriate ingestion pathway protective actions.

3. Coordinate with organizations responsible for hazard assessment. Identify monitoring and sampling needed to support ingestion pathway protective action decision making. Ensure that monitoring and sampling to support ingestion pathway decision making is included in monitoring and sampling plans.

4. Develop specific implementing procedures for ingestion pathway protection. May include measures such as contacting food and drug producers, inspection of outgoing shipments, quarantine or condemnation of consumable materials, and securing of alternate food and water supplies.

5. Coordinate implementation of ingestion pathway protective actions.

2.5.8 ICS-based Responsibilities

Incident Command

1. Based on hazard assessments, determine whether the incident poses a risk of contamination of ingestible items (food and beverages, water, drugs).

2. If there is such a risk, ensure that information is developed on water, food, beverage, and drug resources within the IRZ that are potentially at risk of contamination by chemical agent.

3. If there is a such a risk, coordinate for performance of appropriate sampling and analysis activities to assess ingestion pathway risk.

4. Determine appropriate emergency and preventive protective actions to protect the public

against ingestion exposure to chemical agent.

5. Provide instructions to the public regarding chosen protective actions.

Planning Section

1. Gather and analyze hazard assessment information to assess the risk of ingestion pathway exposure to chemical agent. Advise Incident Command.

2. Oversee performance of sampling and analysis to assess ingestion pathway risk. Ensure that appropriate procedures are followed to protect the integrity of samples.

3. Develop information on water, food, beverage, and drug resources within the IRZ that are potentially at risk of contamination by chemical agent.

Operations Section

1. Implement ingestion pathway protective actions as determined by Incident Command. Include adjustment or shutoff of water utilities, quarantine or destruction of potentially contaminated items, inspection of shipments out of the restricted zone, securing of alternate water/food/drugs for use within the restricted zone, and other measures, as needed.

2. Support sampling and analysis teams, as needed. Include support for access to restricted areas, access to private property, transport of sampling teams, and transport of samples for analysis.

Logistics Section

1. Secure resources to support sampling and analysis teams. Include vehicles, supplies used in sample collection and transport, communication equipment, and other items, as needed.

2. Secure resources to support implementation of ingestion pathway protective actions, as needed. Include import of substitute food, water, and drugs.

Finance/Administration

1. Track costs of performing ingestion pathway related sampling, analysis, and protective actions. Include costs of substitute food, water, and drugs, as needed.

2. Ensure that records are maintained of decisions and actions taken on ingestion exposure pathway protection.

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2.6 MEDICAL SERVICES

2.6.1 Purpose

Recovery medical services includes preventing disease, treating victims acutely affected by the chemical event, and assisting community recovery via long-term physical and mental health services. *Name of jurisdiction* will ensure that the affected population receives appropriate medical services for conditions related to the chemical event.

2.6.2 Assumptions

Planning for provision of medical services during recovery from a chemical event is based on the following assumptions:

- Medical personnel trained in the treatment of persons contaminated by chemical agent will be available locally, from the Army, or from other jurisdictions through mutual aid agreements.
- Despite the best efforts of emergency management officials and staff, emergency workers or members of the public might be exposed to harmful levels of agent during recovery.
- The news media will demand information on health effects and any injuries.
- Persons who were in or near the protective action area will be concerned about the possibility of adverse health effects from the event, and some will seek medical advice and/or an examination.

2.6.3 Concept of Operations

Emergency response to a chemical event will include mobilization of medical facilities and services to provide immediate first aid and emergency treatment to potential victims. *Name of jurisdiction* will ensure that such capabilities continue during recovery. Exposure to harmful levels of agent is less likely during recovery than during the early parts of the emergency and response but is still possible.

Medical services during recovery might include dealing with human or animal remains. Special procedures might be required to accommodate the technical aspect of dealing safely with potentially contaminated remains, while allowing investigation of the deaths and final disposition of the remains to proceed.

Medical services also will include provision of services to address the public's concerns about the event, including medical screening and consultation services and mental health counseling.

Medical Services to Support Emergency Worker Operations

Emergency workers may be exposed to harmful levels of agent during reentry and recovery operations due to failure of PPE or other unforeseen circumstances. Medical facilities and staff will remain ready to deal with such situations during recovery. In particular, operations involving entry into restricted areas will be supported by medical capabilities for (1) routine screening of emergency workers for agent exposure symptoms and (2) prompt treatment if harmful exposures occur.

Whenever one or more emergency worker teams is operating in a restricted area, the following medical capabilities will be activated to provide routine screening and prompt treatment capability:

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Standby Capabilities to Evaluate and Treat Exposure Victims

Members of the public may be exposed to harmful levels of agent during recovery if they remain in or enter restricted areas that have been evacuated. *Name of jurisdiction* will ensure that medical capabilities are available for treatment of any such cases.

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(*The capabilities required for this aspect of medical services are similar to those needed to support emergency worker operations. Emergency worker operations, however, are scheduled and coordinated in advance, whereas a case from the public may arise at any time. Therefore, standby capability should be available around the clock.*)

Management of Human Remains

Capabilities will be activated or placed on standby, as appropriate, for dealing with human remains. Human remains might be discovered in a restricted area or originate at a medical facility when a patient is pronounced dead.

Upon notification of a death, emergency management personnel will notify the *Coroner/Medical Examiner* and the *Sheriff/Police Chief*. Remains will not be moved or disturbed without their approval.

If it is necessary for the *Coroner/Medical Examiner* or the *Sheriff/Police Chief* to enter a restricted area to perform an investigation, the following arrangements will be made to support the entry:

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_____

(*Describe the arrangements for entry into the restricted area, including issuance of PPE, monitoring and escort support, checkpoints, and backup rescue/medical teams.*)

Responsible public official will notify the victim's relatives once the victim's identity has been established, and will coordinate the process of handling and releasing the remains for final disposition in accordance with the family's preferences.

Responsible public official will be responsible for monitoring and decontamination of human remains. This function will be performed in accordance with the standards and guidance in the CSEPP Planning Guidance, Appendix M.

Dealing with Animal Remains

Capabilities will be activated or placed on standby, as appropriate, for dealing with any animal remains discovered in a restricted area. *Responsible public official* will be responsible for removal and disposition of any such remains, including coordination as needed with hazard analysis staff and environmental officials as needed. Monitoring, decontamination, and disposition of animal remains will be performed in accordance with the standards and guidance in the CSEPP Planning Guidance, Appendix M.

Medical Services and Counseling Program

A program will be established to provide medical screening and follow-up care, as well as mental health counseling for persons affected by the emergency, including both emergency workers and members of the general public. Medical examinations will be available for persons who would like to be evaluated for symptoms of agent exposure. Counseling will also be available for persons affected by the emergency.

(*List the organizations and services to be provided.*)

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_____
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(*After a chemical event, many persons in the area, including members of the public and emergency workers, may want to have a medical evaluation for symptoms of exposure. Some will prefer to visit a private physician, but some will probably ask public authorities to provide assistance. Provision of initial screening and follow-up medical care would be both a physical and a psychological benefit to the community. A number of organizations, including the*

American Red Cross and the U.S. Army, may be willing and able to provide support in this area. It may also be useful to contact local private physicians to provide them with information on diagnosis and treatment of agent exposure symptoms. Counseling and mental health services also are helpful for disaster victims.)

2.6.4 Responsibilities by Position/Organization

Chief Executive or Emergency Management Director

1. Assess requirements for medical services and secure resources to fulfill them.

2. Coordinate provision of medical services with other organizations (*e.g., U.S. Army, American Red Cross, local hospitals, adjacent jurisdictions*).

3. Ensure that the public receives appropriate information regarding treatment of agent exposure victims and the availability of medical services and counseling. Ensure that information regarding injured persons is provided to family members before it is disseminated to the public.

Primary Implementing Organization: Health Department

1. Assess requirements for medical services during recovery and the capability of local resources to meet them.

2. Coordinate arrangements with emergency medical service (EMS) units and hospitals to provide emergency treatment for emergency workers and other possible victims.

3. Ensure that chemical emergency-specific resources are adequate (e.g., stocks of atropine).

4. Coordinate arrangements for disposition of human remains, as required, with relatives of victims, the *coroner/medical examiner*, and funeral homes.

5. Coordinate arrangements for disposition of animal remains, as required, with the public works department, environmental authority, and waste handlers.

6. Coordinate arrangements for a medical screening program and follow-up care with local health care providers and other participating organizations.

7. Coordinate arrangements for counseling and other mental health services.

8. Coordinate proper disposal of any contaminated materials resulting from providing medical care to persons treated for chemical event-related injuries.

9. Determine in advance the record-keeping procedures and facilities needed to address the health and medical needs of the community.

10. Determine measures necessary to restore to its original and safe condition any medical facility used in the treatment of chemical agent exposure victims.

Hospitals

1. Continue treatment initiated during emergency response and care for any new patients during recovery.

2. Coordinate with the *coroner/medical examiner*, laboratories, Public Information Officer (PIO), and volunteer organizations to provide information to relatives and concerned persons.

3. Coordinate with laboratories to dispose of samples and obtain test results.

4. Coordinate arrangements for disposition of human remains, as required, with relatives of victims, the *coroner/medical examiner*, and funeral homes.

Emergency Medical Services

1. Provide rescue or transportation services for emergency workers or others requiring assistance, as needed.

2. Coordinate with hospitals and other health care providers to treat patients who may have been exposed to harmful levels of chemical agent.

Mental Health Organizations

1. Provide mental health services for evacuees, emergency workers, and others affected by the emergency.

2. Provide information on availability of services to the PIO at regular intervals for as long as necessary (perhaps a year or more).

County Coroner/Medical Examiner

1. Coordinate information on deaths with the PIO.

2. Coordinate with law enforcement agencies regarding investigation of deaths to provide security for property of deceased persons and to notify next of kin.

3. Supervise the disposition of human remains according to recommended methods.

4. Investigate circumstances of death, time, and cause.

5. Authorize removal of human remains.

Law Enforcement

1. Notify EMS, as needed, to transport victims to hospitals and health centers.

2. Assist the Health Department with enforcing sanitation and safety measures.

3. Coordinate, as needed, with medical personnel in investigating the circumstances of deaths.

Public Information Officer

1. Obtain information from the agencies and organizations described above regarding injured persons, the status of their medical treatment, health and medical recommendations for the public, and availability of mental health outreach services.

2. Release information to the public and news media in close cooperation with the Public Information Office and local, state, and federal authorities. Information pertaining to personal concerns of victims and their families should be treated with strict confidentiality.

Volunteer Organizations: American Red Cross (ARC)

1. Cooperate with local, state, and federal agencies and authorities in providing medical and mental health care to individuals located in shelters and to others referred to the ARC.

(*Insert the names of the particular positions, ambulance companies or EMSs, hospitals, and other organizations that would be involved in medical response, and revise the responsibilities as appropriate. For some organizations, a memorandum of agreement or similar document may be needed to ensure a secure basis for medical support during recovery.*)

2.6.5 ICS-based Responsibilities

Incident Command

1. Coordinate the provision of medical services with other organizations (*e.g., U.S. Army, ARC, local hospitals, adjacent jurisdictions*).

2. Ensure that the public receives appropriate information regarding treatment of agent exposure victims and that medical services and counseling are available. Ensure that family members receive information regarding any injured relatives before it is disseminated to the public.

Planning Section

1. Assess requirements for medical services and the capability of local resources to meet them. Advise Incident Command.

2. Assess the need for a follow-up medical screening program for emergency workers and/or the public. Advise Incident Command. Coordinate arrangements for the program, as needed.

3. Assess the need for a counseling and mental health program for emergency workers and/or the public. Advise Incident Command. Coordinate arrangements for the program, as needed.

4. Coordinate with any medical facilities where emergency victims were treated to determine what is necessary to restore the facility to its original and safe condition. Advise Incident Command.

Operations Section (Medical Branch)

1. Provide emergency medical services for the public and emergency workers, as needed.

2. Coordinate with local hospitals and Army medical services for treatment of agent exposure victims and procedures for handling patients that are potentially contaminated with agent. (*Note: only a combination of unusual circumstances would lead to detectable contamination off-post; see Section 2.3 on hazard assessment.*)

2. Provide for the disposition of human remains, as required, in coordination with relatives of victims, the *coroner/medical examiner*, and funeral homes.

3. Provide for the disposition of animal remains, as required, in coordination with the public works department, environmental authority, and waste handlers.

4. Coordinate proper disposal of any contaminated materials resulting from provision of medical care to persons treated for chemical emergency-related injuries.

5. Coordinate with law enforcement agencies regarding investigation of deaths to provide security for property of deceased persons and to notify next of kin.

6. Provide mental health services for evacuees, emergency workers, and others affected by the emergency.

7. Provide the PIO with information on the availability of services at regular intervals for as long as necessary (perhaps a year or more).

Operations Section (Coroner/Law Enforcement Branch)

1. Coordinate information on deaths with the PIO.

2. Investigate the circumstances of death, time, and cause.

3. Authorize removal of human remains.

Logistics Section

1. Coordinate with nearby jurisdictions and facilities to augment medical resources, as needed. (*Emergency medical services may be needed to "backfill" local services that are occupied with the recovery operation.*)

2. Ensure that chemical emergency-specific resources are adequate (e.g., stocks of atropine).

Finance/Administration

1. Track costs of performing medical services associated with the chemical emergency.

2. Ensure that records of the medical services provided are maintained.

2.7 RELOCATION

2.7.1 Purpose

After a chemical event involving deposition of a persistent agent, it may be necessary to prevent unrestricted reentry of evacuated areas for an extended period (beyond a few days). Long-term relocation of residents, businesses, and government offices may be required. *Name of jurisdiction* will provide or seek arrangements for services to support individuals and organizations affected by a long-term relocation.

2.7.2 Concept of Operations

Long-term relocation involves a transition from a short-term evacuation situation. Residents evacuating for a short time may initially stay with friends or relatives, in a mass care shelter, or a motel. These options become less attractive as the period of stay increases. For schools, businesses, and government offices, opening operations in a new location (temporary or permanent) becomes more attractive as the relocation period increases.

The federal government can provide relocation assistance following a Presidential declaration of emergency or disaster. Specifically, FEMA is authorized under the Stafford Act to assist individuals and families with relocation. Assistance may be in the form of either payments to offset temporary housing costs or direct provision of temporary housing. The Stafford Act also authorizes the Small Business Administration (SBA) to assist businesses with relocation and other disaster-related costs. Annex K contains additional information on accessing these federal programs and what benefits are provided.

The following host communities have volunteered to assist with relocation of individuals, businesses, schools, and/or other government offices:

=> _____
_____
_____

(*Host communities that might shelter evacuees during emergency response should be consulted as to whether they would also be able to assist on a longer-term basis if long-term relocation is needed. School districts and private schools may have separate agreements with other schools in the area to accommodate displaced students if schools in the hazard area must remain closed for an extended period.*)

Relocation of Individuals

The following activities will be carried out to support relocation of individuals:

- Assess the need for relocation assistance if long-term displacement is required.
- Identify the available internal and external resources for relocation.
- Work with FEMA to assess and develop housing options.
- Provide for community services at temporary housing locations.
- Coordinate with other jurisdictions that serve as host communities.

The following factors will be taken into account in selecting long-term alternate housing:

- Ensure that safe housing meets applicable building codes.
- Provide a location as close as possible to the restricted zone.
- Aim for a family friendly environment.
- Make sure transportation is available to schools.
- Coordinate with social service agencies to place special-needs individuals in appropriate facilities.

Relocation of Schools

The following schools are within the IRZ and may have to be relocated. Alternate locations are provided:

=> _____
_____
_____

(*Inventory schools that may have to be relocated, including both public and private schools. Where possible, identify alternate locations or arrangements for the students that attend those schools.*)

Relocation of other Government Agencies and Services

The following government offices are within the IRZ and may have to be relocated. Alternate locations are provided:

=> _____
_____
_____

(*Inventory government offices that may have to be relocated due to a chemical event. To the extent possible, identify alternate locations for these offices.*)

Relocation of Businesses

Businesses located within a restricted area may need to be relocated on a temporary basis. *Name of jurisdiction* will work with the SBA as well as with local business service organizations to find suitable locations for affected businesses and assist with setup at the new locations, including publicizing the new location, as appropriate.

2.7.3 Responsibilities by Position/Organization

Chief Executive or Emergency Management Director

1. Work with representatives of participating organizations and host jurisdictions to develop a relocation plan.

2. If long-term relocation is needed, oversee and coordinate relocation of individuals, businesses, and government offices. Coordinate implementation with host communities, FEMA, SBA, and service organizations.

3. Ensure that records of expenses associated with relocation are maintained.

4. Ensure that temporary housing areas have appropriate security measures in place.

Primary Implementing Agency: Social Services Department

1. Review mass sheltering activities under way.

2. Work with the following agencies to find longer-term temporary residential placement for individuals and families displaced by the emergency:

   => _____
   _____
   _____

3. Coordinate with public information services to provide the public with information on the availability of relocation services.

4. Coordinate with school officials in the affected communities to ensure access to education for evacuated children.

5. Arrange for transportation services, if feasible and appropriate, to provide evacuees access to work, shopping, medical services, government services, and places of worship.

6. Work with the SBA, state agencies, local chambers of commerce, and other business service groups to find long-term placement for affected businesses.

2.7.4 ICS-based Responsibilities

Incident Command

1. If long-term relocation is needed, oversee and coordinate relocation of individuals, businesses, and government offices. Coordinate implementation with host communities, FEMA, SBA, and service organizations.

2. Ensure the public is informed of relocation options.

Planning Section

1. Review mass sheltering activities under way.

2. Work with social service agencies and host communities to find longer-term temporary residential placement for individuals and families displaced by the emergency.

3. Coordinate with school officials in the affected communities to ensure access to education for evacuated children.

4. Arrange for transportation services, if feasible and appropriate, to provide evacuees access to work, shopping, medical services, government services, and places of worship.

5. Work with federal, state and local agencies and business-support organizations to find longer-term temporary placement for affected businesses and governmental offices and support resumption of business.

Operations Section

1. Provide relocation services to displaced residents and businesses, as required, including transportation, setup of temporary government-service locations, and other services.

2. Provide security at temporary housing areas.

Logistics Section

1. Provide resources to support delivery of relocation services, including vehicles (e.g., school buses), facilities for temporary governmental offices, and others.

Finance/Administration

1. Ensure that records of expenses associated with relocation are maintained.

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2.8 SOCIAL SERVICES

2.8.1 Purpose

Providing social services following a chemical event is intended to reduce the degree of human suffering and expedite return to the normal affairs of daily life for the affected population. *Name of jurisdiction* will coordinate social services for those affected by the chemical event.

2.8.2 Concept of Operations

A chemical event will probably increase the need for social services among the affected population. Even if the actual off-post hazard is minimal or absent, the stress of a period of increased risk, as well as the resultant precautionary or spontaneous protective actions, will likely cause some persons to seek social services who otherwise would not do so. In a more severe accident scenario, social service needs may be multiplied.

Social service needs during recovery from a chemical event will depend on the population affected, the severity of the event, and other factors. Some needs, such as psychological counseling, provision of food and clothing, and employment assistance, will be similar to their everyday counterparts. Other needs, such as assistance with relocation and disaster aid applications, will be specific to a post-emergency situation. For this reason, a wide variety of services are planned; social service coordinators will determine and provide for a community's particular needs after a chemical event.

2.8.3 Services Provided

The following services can be provided during recovery for persons displaced, unemployed, or otherwise affected by the emergency:

- Child care
- Medical services, supplies, and prescriptions
- Mental health and social service counseling
- Food and water
- Clothing and personal needs
- Transportation for those who cannot otherwise get to claims centers, school, medical care, or shopping for basic needs

- Assistance with applications for claims disaster aid
- Assistance with employment or access to unemployment benefits
- Other essential community services that may be disrupted (e.g., banking or check-cashing services)
- Care for pets
- Arrangements for mail service
- Emergency communications between affected residents and family/friends from out of town (e.g., "wellness checks")

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_____
_____

(*List available services, including the above items and/or others.*)

In addition, an effort will be made to deal with unplanned or impromptu relief efforts of organizations and individuals. That effort will be coordinated with the public information staff to publicize guidance for those who wish to help.

2.8.4 Participating Agencies and Organizations

The following agencies and organizations will contribute to providing social services during recovery:

=> _____
_____
_____

(*This list may include state, county, and municipal social service agencies; other local jurisdictions available through mutual aid agreements; and a variety of national, state, or local volunteer and service organizations. Annex C provides a partial list of national service organizations.*)

2.8.5 Responsibilities by Position/Organization

Chief Executive or Emergency Management Director

1. Coordinate activities of participating relief and social service organizations in *name of jurisdiction*.

2. Assess human and material resource needs.

3. Make formal requests to other organizations for support, as needed.

4. Coordinate with the Army and FEMA to establish disaster aid application centers.

Primary Implementing Organization: Social Services Agency

1. Development of Recovery Capabilities (Prior to Emergency)

    a. Identify probable needs, the probable affected population, and any special populations that may require special services after an emergency.
    b. Identify available resources and establish cooperative agreements with other jurisdictions to cover resource shortfalls.
    c. Work with the private sector to develop additional sources of human and material assistance, and to encourage businesses to develop and/or coordinate their own recovery plans.

2. Initiation of Recovery Actions (Post-Emergency)

    These procedures can be initiated during the emergency response phase. Evaluation and reevaluation of needs and resources will be a continuous process.

    a. Assemble support staff.
    b. Identify the affected population, including any special needs groups, and determine the type and scale of social service needs.
    c. Confirm the availability of resources and identify potential resource shortfalls. Assist participating organizations in obtaining resources sufficient to fill unmet needs.
    d. Provide for logistic needs such as transportation, storage, and communications to support provision of social services.
    d. Maintain regular contact with the public information staff and the *emergency management director/chief executive*.
    e. Provide assistance to, and coordinate with, other agencies in establishing disaster application centers (or equivalent).

3. Cost Documentation Coordination (Accounting)

    a. Document expenses, personnel hours, and other costs of providing and coordinating social services.
    b. Maintain records as required to comply with federal, state, and local regulations, as necessary, to obtain reimbursement and/or authorization.

2.8.6 ICS-based Responsibilities

Incident Command

1. Coordinate activities of participating relief and social service organizations.

2. Make formal requests to other organizations for support, as needed.

3. Coordinate the opening of disaster aid application centers.

4. Ensure the public is informed of available services.

Planning Section

1. Identify the affected population, including any special needs groups, and determine the type and scale of social service needs.

2. Confirm the availability of resources and identify potential resource shortfalls. Coordinate with other jurisdictions, volunteer organizations, etc., to obtain resources to fill unmet needs.

Operations Section

1. Provide social services to persons affected by the emergency. Social services may include counseling, housing assistance, financial assistance, medical assistance, employment counseling, child care, and others.

2. Set up facilities for disaster aid centers and coordinate staffing and equipment for them.

Logistics Section

1. Provide for logistic needs such as transportation, storage, and communications to support provision of social services.

2. Arrange facilities as needed for establishment of disaster aid centers.

Finance/Administration

1. Document expenses, personnel hours, and other costs of providing and coordinating social services.

2. Maintain records as required to comply with federal, state, and local regulations, as necessary, to obtain reimbursement and/or authorization.

2.9 PUBLIC INFORMATION

2.9.1 Purpose

The purpose of public information and community relations during recovery from a chemical event is to provide timely, accurate, and complete information to the public pertaining to protective actions, health dangers, recovery efforts, available services, and other issues of interest to the public. Each organization will contribute to public information and ensure that its efforts are coordinated with other organizations.

2.9.2 Assumptions

After a chemical event, it can be assumed that both the public and the media will demand information on recovery status and activities. In particular, the public will demand information about the extent of the chemical hazard, residual contamination, reentry, potential health effects of exposure, compensation and assistance available, and many other issues.

A Joint Information System (JIS) and Joint Information Center (JIC) will have been established during the emergency response phase, including facilities for briefing the news media and responding to public inquiries. The JIS should continue to operate throughout the recovery phase. The JIC may continue to function early in the recovery phase but will not remain open indefinitely.

If the release of chemical agent was significant, a formal remediation process will begin under the NCP, including public hearings and assembly of a public record of decision.

(*Providing timely, accurate, and complete information to the public about the recovery process, including public education campaigns prior to any emergency, is an integral part of managing recovery. Public education and information are particularly important with respect to the hazard assessment process that would take place after a chemical event. Information about the hazard assessment process, including how and why it is being conducted and how long it will take, should help address public concerns about residual hazards and ease pressures for return. It also allows displaced persons to make plans based on the most realistic possible forecast for unrestricted reentry to affected areas.*)

2.9.3 Concept of Operations

During recovery operations, the media can be an important resource for communicating information to the public about reentry decisions, health hazards, and recovery services offered by local, state, federal, and volunteer agencies.

Part of the emergency response to a chemical event will be activation of the JIS and JIC. These will continue to operate into the recovery period as long as required to fulfill public information needs. JIC operations during the recovery phase will be similar to those in the response phase, although agencies represented by PIOs can change to reflect differing needs and activities in recovery verses response. After the JIC has been deactivated, information will be conveyed to the media via normal channels (e.g., through interviews, press conferences, press releases) and will be coordinated with other jurisdictions via telecommunications. In addition, information will continue to be available to the public on an individual basis through publicized call-in telephone numbers.

The JIS will be used to coordinate public information among federal, state, and local organizations participating in recovery efforts. The need for coordination will continue as long as multiple organizations are involved in the recovery.

Throughout the recovery, information will be provided through press conferences, press releases, interviews, and public inquiries. In addition, copies of documents associated with the recovery effort will be made available to the public and the press. Such documents can include monitoring and sampling plans, agreements for recovery-related services, hazard analysis results, decision documents, and other documents generated in the course of recovery actions.

(*Note: the news media are independent and have significant power to influence public opinion. The news media have four major functions: to report, to analyze and advise, to entertain, and to make a profit. Reporters and media personnel are not necessarily allies, as they have their jobs to perform. It is important to remember this distinction when preparing public education and information plans for the recovery phase. To establish a good working relationship with the media, the following recommendations should be considered:*

- *Treat the working media with professional respect.*
- *Use an open, honest approach in briefing and informing the media. Because the emotional effects of a disaster can persist for a substantial time, it is a good idea to provide information to the media on a periodic basis, particularly on the one-year anniversary of an event.*
- *Respect the working media's deadlines and understand the job they must perform. To meet this goal, for example, provide copies of plans and other background materials that are available from other public sources.*
- *Establish and maintain a sound working relationship with local media personnel on a routine basis.*)

2.9.4 Recovery Public Information Topics and Methods

Public information efforts during the recovery phase will focus on informing the public of protective actions, residual hazards, status of assessment and cleanup efforts, and access to assistance and compensation. Efforts will be made to address at least the following topics:

- Status of any individuals suffering health effects
- Status of hazard assessment (monitoring, sampling, and evaluation) and cleanup efforts
- Information on residual hazards in restricted areas
- Protocol for reentry to restricted areas
- Relaxation of protective actions
- Estimated time of return to restricted areas
- Security of property in restricted areas
- Availability of mass care and/or long-term relocation facilities
- Availability of medical and social services for those affected by the emergency
- Procedures for obtaining disaster assistance and submitting claims for compensation
- Public concerns as expressed in inquiries received

To maximize the effectiveness of the public information program, various methods will be used to disseminate information. In addition to written and electronic news media, an outreach program will be implemented to make direct contact with target populations, such as persons at congregate care centers.

2.9.5 Transition from Emergency Phase Public Information Operation

The JIC will be deactivated when it is no longer needed to fulfill public information requirements. Before deactivation takes place, media representatives and other interested parties will be informed as to how to obtain information after the JIC has been deactivated.

Coordination among organizations and a unified voice from designated spokespersons will continue to be important during the recovery phase and will be maintained through JIS channels.

Throughout recovery, it is also essential that members of the public be able to obtain information and assistance on an individual basis. Therefore, the public inquiry telephone numbers publicized during the emergency response phase will continue to be staffed as long as needed during the recovery phase.

(*It is important to consider public information functions in terms of a possibly lengthy or indefinite time frame; public information functions may continue well after other activities have*

ceased. For example, the media will report on anniversaries of an event 1, 5, or 10 years later, including interviewing current and former residents, emergency workers, and public officials.)

2.9.6 Community Relations under the National Contingency Plan

The public information function also includes developing outreach plans and coordinating public meetings that may be required by law as part of the environmental remediation process under the NCP. Public participation in the remediation decision-making process will be promoted by:

- Ensuring that legal public participation requirements are met
- Making public facilities available for public meetings, reading rooms, etc.
- Publicizing opportunities for public participation
- Representing the interests of residents on inter-jurisdictional panels and committees

(*If it is determined that a removal or remedial action is required, Section 113 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and Subpart I of the NCP set forth the requirements for the development and public inspection of an administrative record that contains the documents that form the basis for selecting the response action to be implemented. The Department of Defense [DoD] will be responsible for compiling and maintaining the administrative record in accordance with Subpart I of the NCP. Section 117 of CERCLA and Sections 300.415(m), 300.430(c), 300.430(f) and Subpart I of the NCP require public participation in the development and final selection of the removal or remedial action plan. Under Section 300.415(m)(3) for removal actions where on-site action is expected to extend beyond 120 days from the initiation of on-site removal activities, the DoD will prepare a formal community relations plan on the basis of community interviews and other relevant information. The DoD must also prepare such a formal community relations plan for any remedial action pursuant to Section 300.430(c)(2)(ii).*)

2.9.7 Responsibilities by Position/Organization

Installation Commander

1. During recovery from a chemical event, ensure that public information released from the installation is coordinated with off-post jurisdictions.
2. If a removal or remediation process is initiated under the NCP, ensure that legal public participation requirements are met.

Chief Executive or Emergency Management Director

1. Prior to any emergency, ensure that public education campaigns in the community include treatment of the recovery period.

2. During recovery from a chemical event, ensure that public information is coordinated among the involved organizations.

3. Ensure that public inquiry lines are kept open until they are no longer needed.

4. Ensure that the public is afforded the opportunity to fully participate in the environmental remediation process through public hearings, public comments, and access to information regarding the assessment and cleanup process. Make public facilities available for this function as needed.

Public Information Officers (all organizations)

1. Develop material that addresses the recovery period to include in public education campaigns, including general information about the possibility that some areas might be closed for days or weeks, and how the residual hazard assessment process would proceed.

2. Ensure that JIS/JIC planning includes the recovery period and any changes in coordination procedures that occur when the JIC is deactivated.

3. During recovery from a chemical event, provide accurate and complete information to the public about recovery operations, through media briefings and interviews and through an outreach program to persons affected by the emergency.

4. Continue to ensure that public information is coordinated among the involved organizations.

5. Continue to manage the public inquiry function until it is deactivated.

6. Manage the process of deactivating the JIC and maintaining coordination and continuity of public information activities after the JIC is deactivated.

7. Maintain a continuing public information capability after the JIC is deactivated, including providing information to the media for follow-up stories on anniversaries of the event.

Law Enforcement Agency

1. Provide security at public information facilities. Operate a badging/credential system for entry to the facility.

2.9.8 ICS-based Responsibilities

Incident Command

1. Ensure that public information is coordinated among the involved organizations.

2. Ensure that public inquiry lines are kept open until they are no longer needed.

3. Ensure that the public is afforded the opportunity to fully participate in the environmental remediation process through public hearings, public comments, and access to information regarding the assessment and cleanup process. Make public facilities available for this function, as needed.

Command Staff – Public Information Officers

1. Provide accurate and complete information to the public about recovery operations, through media briefings, interviews, and an outreach program to persons affected by the emergency.

2. Continue to ensure that public information is coordinated among the involved organizations.

3. Continue to manage the public inquiry function until it is deactivated.

4. Manage the process of deactivating the JIC and maintaining coordination and continuity of public information activities after the JIC is deactivated.

5. Maintain a continuing public information capability after the JIC is deactivated, including provision of information to the media for follow-up stories on anniversaries of the event.

Planning Section

1. Assist public information staff as needed with planning the transition to a post-JIC public information operation.

Operations Section

1. Provide security at public information facilities. Operate a badging/credential system for entry to the facility.

2. Advise spokespersons, as needed, on issues that may be of interest to the public regarding

implementation of recovery operations.

Logistics Section

1. Continue to assist in providing facilities, supplies, and other support for operation of the JIC as long as needed and then assist with deactivation of the facility.

Finance/Administration

1. Track expenses associated with operation of public information facilities.

2. Advise spokespersons, as needed, on issues of interest to the public regarding administration and finance of the recovery operation.

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2.10 CLAIMS AND DISASTER ASSISTANCE

2.10.1 Purpose

After a chemical event, affected individuals, businesses, units of government, and other organizations will seek disaster assistance and compensation for damages incurred. Although claims and disaster assistance will be primarily a function of the U.S. Army Claims Service (USARCS), FEMA, and other federal agencies, *name of installation* and *name of jurisdiction* will use their resources to minimize delays and expedite processing and resolution of claims and disaster assistance applications.

2.10.2 Concept of Operations

Timely and accurate damage assessment and prompt distribution of aid are extremely important to community and individual recovery. This function is best achieved by anticipating and planning for the administrative process involved, so that the administrative structure, resources, and procedures are quickly put in place to receive and process claims and applications for assistance. Prompt access to assistance and compensation will be promoted through the following measures.

(*Note, further information on claims and disaster assistance may be found in Annexes I, J, and K.*)

Request for Disaster Declaration

Procedures are in place to quickly initiate a request from the Governor to the President for a declaration of Emergency or Major Disaster under the Stafford Act. Forms are prepared to provide the information needed to address the criteria under which FEMA will evaluate the request.

(*Under the Stafford Act, assistance to individuals and families can include temporary housing, food, grants for expenses, crisis counseling, legal services, disaster unemployment compensation, and other goods and services. Governmental units may apply for assistance with public expenses resulting from the disaster, including removal of debris and restoration or rebuilding of public buildings and infrastructure.*)

Assistance with Disaster Assistance Centers

Efforts will be coordinated among the Army, FEMA, and other involved organizations to establish Disaster Assistance Centers (DACs) at the following locations, to provide "one-stop shopping" for persons affected by the chemical event.

=> _____
_____
_____

The DACs will be staffed by:

- USARCS
- FEMA
- Small Business Administration
- *State and local social service agencies*
- *Volunteer relief organizations*
- *Major insurance companies*

(*Coordinate with USARCS and FEMA regarding pre-planning for this function. Both have plans and policies that include establishing disaster field offices for this purpose. A state or local jurisdiction may be able promote a more effective DAC by helping to find or make available suitable space, providing logistics support (e.g., office furniture and equipment), and arranging for other organizations to join the operation, including state and local social service agencies, volunteer organizations such as the ARC, and insurance companies. Installations may also be able to provide logistic support for this function.*)

Support to Individuals Filing Claims or Requests for Assistance

Assistance will be provided to residents who, because of physical or mental disabilities, language barrier, or other reasons, may have difficulty in completing the necessary paperwork.

(*Planning for this function would involve identifying staff or volunteers who can assist individuals who need help with understanding and/or filing the necessary forms and providing needed documentation. Proficiency in languages other than English might be needed if non-English-speaking populations reside within the area that might be affected. This function should be coordinated with the Army and FEMA.*)

Publication of Availability of Assistance

Public information resources will be used to make the public aware of what assistance is available, where applications can be submitted, and other information to facilitate public access to compensation and disaster assistance.

2.10.4 Responsibilities by Position/Organization

Installation Commander

1. Work with USARCS and civilian authorities to coordinate establishment of a disaster assistance center, including facilities and personnel for processing chemical event-related claims.

2. Work with USARCS and civilian authorities to coordinate provision of logistics support to the disaster assistance center. Assist civilian authorities with planning, preparation, and recovery tasks as detailed below under "Primary Implementing Organization."

Chief Executive or Emergency Management Director

1. Make formal request for disaster declaration and assistance. Oversee submission of claims or disaster aid applications to recoup state/local losses.

2. Delegate responsibility for coordinating damage assessment and disaster assistance application.

3. Negotiate with other organizations to establish one or more centralized disaster assistance centers.

4. Coordinate with the Army regarding co-location of a special claims processing center.

Primary Implementing Organization: Emergency Management Agency

1. Planning and Preparatory Tasks

    a. Assist in preparing agreements with other organizations for establishing one or more centralized disaster assistance centers.
    b. Develop procedures for activating centralized assistance centers, including selection of facility, staffing, supplies, communications, security, and other necessary arrangements.
    c. Have procedures in place to quickly submit requests (and required documentation) to the President for declaration of an emergency or major disaster.
    d. Develop procedures and train staff to assist individuals and businesses to apply for assistance.
    e. Develop procedures and train staff (a Damage Assessment Team) for estimating damages eligible for public assistance funding.

2. Tasks to Perform during Recovery

    a. Gather and organize information required to support an executive request for disaster declaration and assistance.
    b. Activate centralized assistance center(s).
    c. Activate the Damage Assessment Team
    d. Ensure that assistance and claims information is properly publicized so as to reach the affected public.
    e. Provide information from government agencies that the public may need to have to document claims and requests for assistance.
    f. Mobilize personnel to assist persons who need help in filing a claim or application for assistance.

Public Works Director and/or Tax Assessor or Finance Director

1. Evaluate damage or loss sustained to state/local buildings, utilities, and other facilities, and estimate cost to repair.

2. Track costs of responding to the chemical event.

3. Evaluate losses due to decreased tax revenue.

4. Submit and negotiate claims and/or disaster aid applications to recover losses sustained by state and local government.

2.10.5 ICS-based Responsibilities

Incident Command

1. Make a formal request for disaster declaration and assistance.

2. Delegate responsibility for coordinating damage assessment and disaster assistance application.

3. Work with USARCS, FEMA, and other organizations to coordinate establishment of a disaster assistance center, including facilities and personnel for processing chemical event-related claims and applications for assistance.

4. Ensure that the public is made aware of when, where, and how to file claims and/or requests for assistance.

5. Submit and negotiate claims and/or disaster aid applications to recover losses sustained by state and local government.

Planning Section

1. Gather and organize information required to support an executive request for disaster declaration and assistance.

Operations Section

1. Set up and operate a disaster assistance center. Provide staff to assist members of the public who need help in filing a claim or application for assistance.

2. Provide engineering evaluations or other support to evaluate damage or loss sustained to state/local buildings, utilities, and other public facilities.

Logistics Section

1. Assist with provision of a facility, supplies, and other logistic needs to support operation of a disaster assistance center.

Finance/Administration

1. Track costs of responding to the emergency.

2. Evaluate losses sustained by governmental units, and document them for the claims/assistance application. Include response costs, damage to public facilities, and losses due to decreased tax revenue.

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2.11 ENVIRONMENTAL REMEDIATION

2.11.1 Purpose

After a chemical event involving dispersal of chemical agent off-post, the Army will carry out measures to assess damage and restore the environment in the affected area, in conformance with the CAIRA manual and applicable federal laws and regulations, and in consultation with the EPA , state and local governments, and interest groups. *The signatories to this plan* will fully cooperate in the consultation and restoration process to ensure that public health and safety and the environment are protected.

2.11.2 Assumptions

This section is based on the assumption that restoration and remediation of off-post areas will be required. However, that is not necessarily the case for all chemical event scenarios.

Army restoration and remediation actions will proceed according to AR 50-6, Department of the Army Pamphlet (DA Pam) 50-6, AR 200-1, the NCP, and other applicable requirements and guidance. If the installation has a chemical agent disposal facility, further requirements may apply according to the facility permit issued under the Resource Conservation and Recovery Act (RCRA).

2.11.3 Concept of Operations

Environmental response and remediation efforts will be carried out so as to protect the health and safety of the public and the environment.

Actions Implementing CERCLA

Insofar as remediation efforts are carried out pursuant to CERCLA and the NCP, the following actions will be taken to ensure that legal requirements are fulfilled and the interests of the public are protected:

- The duties of the OSC, as defined in CERCLA and the NCP, will be carried out by the Installation Commander. Subsequently, those duties may be taken over by the SRF Commander.

- The EPA has considerable institutional knowledge and expertise with respect to hazardous material spill evaluation and cleanup, including trained OSCs and extensive contract resources for monitoring, sampling, and laboratory analysis. The EPA will assist with remedial investigation, planning and scoping of the cleanup process, public hearings, and other aspects of environmental remediation, as requested by the Army.

- The Army and civilian authorities will investigate the option of developing an interagency agreement setting out the responsibilities of each party for remedial action.

- Civilian authorities will participate in the planning and selection of the remedial action, including, but not limited to, the review of all applicable data as it becomes available and the development of studies, reports, and action plans under (CERCLA Section 120(f)).

- Civilian authorities will identify applicable, relevant and appropriate, and to-be-considered regulations and communicate such to the DoD in a timely fashion.

- As natural resource trustees (*if applicable*), civilian authorities will coordinate and cooperate with the DoD and any federal natural resource trustees to conduct a preliminary survey of the area affected by the release to determine if trust resources are, or potentially may be, affected. Civilian authorities also will carry out damage assessments and devise and carry out a plan for restoration, rehabilitation, replacement, or acquisition of equivalent natural resources.

Actions Implementing RCRA

Insofar as remediation efforts are carried out pursuant to RCRA, the following actions will be taken to ensure that legal requirements are fulfilled and the interests of the public are protected: (*These actions would be carried out either by the federal EPA or by the state environmental protection agency, depending on whether the federal EPA has delegated the appropriate RCRA enforcement functions to the state. Most states have this authority.*)

- Determine whether an administrative order should be issued under RCRA.

- Participate in negotiations for the modification of the existing permit to provide for a remedial investigation, a corrective measures study, and corrective action.

- Periodically review the corrective action progress and issue the termination of the permit modification upon completion of the corrective action.

(*Primary responsibility for the roles described above is typically at the state level, except that applicable or relevant and appropriate requirements (ARARS) include local requirements. At a given location, depending on state and local law and policy, local government may also have a consultative or even a primary role.*

Restoration and remediation following a chemical event would be subject to two roughly parallel sets of legal requirements, stemming from CERCLA and RCRA and their implementing regulations. Either set could become the primary vehicle for implementing cleanup procedures, depending on circumstances and on the outcome of consultations among the Army, EPA, and affected state and local governments

.

Under CERCLA, negotiation is used to determine the requirements for performing the remedial investigation (RI) to define the nature and extent of the threat to the public health or welfare or the environment caused by the release; for performing the feasibility study (FS) to

identify, evaluate, and select alternatives for the appropriate remedial action to mitigate or abate the release; for selecting the final remedial action and the implementation, objective, and schedule therefore; and for identifying the ARARS of cleanup to be attained at the site at the conclusion of the final remedial action.

If natural resources are or may be affected, or damaged, by the release, the OSC will ensure that state and federal trustees of the affected natural resources are promptly notified to initiate appropriate actions, including coordinating necessary assessments, evaluations, investigations, and planning. States are trustees on behalf of the public for natural resources within the boundaries of the state or belonging to, managed by, controlled by, or applying to the state.

If the release is from a RCRA-permitted agent disposal facility, the state or the EPA can issue an administrative order against DoD requiring a corrective action under RCRA. Under RCRA, negotiation is used to develop an amendment to the existing permit to carry out the corrective action. A state with authorization to implement the corrective action provisions of RCRA would negotiate the cleanup of releases from permitted solid waste management units under RCRA Section 3004(u) or (v) and 40 CFR Part 264. If the state is not so authorized, the EPA would negotiate the cleanup. The EPA can also issue an administrative order and a consent order for a cleanup under RCRA Section 3008(h), independent of the state, for releases from the entire "facility," which, under EPA guidance (December 16, 1985), includes the entire site that is under the control of the owner or operator engaged in hazardous waste management, not just from permitted solid waste management units located at the facility. Therefore, the EPA can consider a release from anywhere in the entire installation to be a release from the facility under Section 3008(h).

Annex H contains additional information on the roles and responsibilities of the state, the Army, and EPA under CERCLA and RCRA and current EPA guidance on negotiating a cleanup agreement.)

2.11.4 Responsibilities by Position/Organization

Installation Commander

1. Fulfill the duties of OSC under CERCLA and NCP unless and until those duties are transferred to the SRF Commander.

2. Participate in negotiations with civilian authorities to develop a cleanup plan under CERCLA and/or RCRA.

Chief Executive

1. Negotiate and conclude an IA, as appropriate, with the DoD to act as a support agency during a remedial action.

2. Ensure that appropriate damage assessments and investigations are carried out.

3. Act on behalf of *name of jurisdiction* in all negotiations relating to CERCLA remedial actions and/or RCRA corrective actions.

Primary Implementing Organization: Environmental Protection Agency

1. Review and evaluate proposals for, and results from, RIs.

2. Conduct appropriate damage assessments and investigations, including damage to natural resources.

3. Identify applicable, relevant, and appropriate environmental and health regulations to be considered, and determine whether proposed cleanup methods will meet them.

4. Negotiate and/or support the chief executive in negotiating selection of CERCLA remedial actions and/or RCRA corrective actions.

5. Monitor progress of remedial and/or corrective actions to ensure that restoration goals and schedules will be achieved.

2.11.5 ICS-based Responsibilities

Incident Command

1. The Installation Commander will fulfill the duties of OSC under CERCLA and the NCP unless and until those duties are transferred to the SRF Commander.

2. Ensure that appropriate damage assessments and investigations are carried out.

3. Negotiate an environmental assessment and cleanup plan, consistent with jurisdictional responsibilities and mandated procedures under CERCLA and RCRA, including the NCP and the disposal facility operating permit, as appropriate.

Planning Section

1. Review and evaluate proposals for, and results from, remedial investigations.

2. Conduct appropriate damage assessments and investigations, including damage to natural resources.
3. Identify applicable, relevant, and appropriate environmental and health regulations to be

considered, and determine whether proposed cleanup methods will meet them.

4. Support Incident Command in developing cleanup plans.

5. Monitor progress of remedial and/or corrective actions to ensure that restoration goals and schedules will be achieved.

Operations Section

1. Support the environmental assessment process, as needed.

Logistics Section

1. Support the environmental assessment process, as needed.

Finance/Administration

1. Assist in evaluating damage to natural resources, as needed.

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ANNEXES

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ANNEX A: SITE-SPECIFIC INFORMATION

Certain information required for recovery, restoration, and remediation will be unique for each location in the Chemical Stockpile Emergency Preparedness Program. Sources of this information should be identified in advance. The following types of information may be useful to the recovery effort and should be considered for inclusion in a site-specific "data book." Most or all of this information should be available from pre-existing documents and databases. Such information may have been compiled as part of planning for emergency-phase response actions.

1. Environmental impact statement(s)

2. Maps with the following information:

   Political boundaries
   Roads, bridges, and trails
   Topography
   Soil types
   Geomorphology
   Geology (stratigraphy and structure)
   Water resources and facilities (e.g., water treatment plants, irrigation facilities)
   Vegetation (e.g., forestry, agriculture)
   Monitoring and sampling grids
   Preset monitoring points
   Property boundaries
   Land use, including mining and agricultural (see also item 6)
   Utilities, including drainage systems
   Community facilities (e.g., schools, parks, recreational areas)
   Nursing homes
   Prisons

3. Meteorological data

4. State, local, and organizational emergency plans

5. State and local laws, regulations, and ordinances (particularly environmental)

6. Databases with the following information:

   Demographic data
   Taxes and property valuations
   Commercial and economic data
   Agricultural data (e.g., dairies; fish hatcheries; aquaculture; apiaries; slaughterhouses; crops; harvest seasons; farms; markets; food processing and production plants, including animal feed plants; pharmaceutical plants)
   Fish and wildlife resources
   Endangered species

7. Aerial photography and satellite imagery (including color and infrared, winter and summer)

8. Information on local hunting seasons, game farms, and wild harvesting of edibles such as mushrooms

ANNEX B: EXTERNAL SUPPORT

Recovery from a chemical event will likely require resources beyond those available in-house from any given jurisdiction. To meet these needs, planners should consider several things, including the following:

1. Developing agreements or contingent contracts with other organizations to fill anticipated needs. These may be mutual aid agreements with neighboring jurisdictions or agreements with private organizations such as charities, medical and transportation services, or laboratories to provide specific services in an emergency.

2. Arranging ahead of time for additional procurement staff, perhaps borrowed from other parts of the state. Generally, some resource needs are anticipated, but others will be unexpected and will need to be addressed on an ad hoc basis. To deal with a sudden increase in procurement requests and associated administrative work, including documentation of costs for later reimbursement, it would be prudent to have arrangements in place to add administrative staff on a quick and temporary basis.

3. Developing a streamlined procurement procedure that can be implemented under emergency powers following a declaration of emergency. In many states, under state law a declaration of emergency allows the chief executive to suspend legal requirements that would otherwise impair emergency response. To take advantage of this power, procedures to implement a streamlined process for procurement (or any other state-regulated activity) can be drawn up in advance, ready for sign-off after an emergency.

Below is a list of the types of resources that might be needed during recovery from a chemical event. Of course, much will depend on local circumstances and needs.

<u>Material Resources</u>

Construction equipment and supplies
Portable housing
Decontamination equipment and supplies
Water purification equipment
Boats
Medical equipment and supplies
Shelter and care supplies (e.g., food, clothing)
Vehicles (e.g., automobiles, vans, buses, trucks)
Agricultural equipment
Barricades
Protective gear and clothing

Human Resources

Recovery from a chemical event will require access to expertise in various disciplines. Advice and assistance can be obtained through local, state, and federal agencies; public service groups; volunteer groups; industries; and professional associations. The following list identifies the specialties likely to be required in recovering from a chemical accident or incident:

Technical Experts

- Engineers
- Toxicologists
- Agricultural scientists
- Geologists
- Hydrologists
- Soil scientists
- Economists
- Meteorologists

Human Services Experts

- Shelter managers
- Social workers
- Clergy
- Child care workers

Medical Experts

- Doctors
- Nurses
- Medical technologists
- Medical librarians
- Psychologists

Other Specialties

- Veterinarians
- Law enforcement personnel
- Administrative personnel
- Construction workers
- Data processing specialists

ANNEX C: VOLUNTEER AND FAITH-BASED RELIEF ORGANIZATIONS

A number of organizations can assist in providing health and social services, including government, private, and volunteer organizations. This annex provides a partial listing of such organizations. Each community and state will have additional sources of aid.

The National Voluntary Organizations Active in Disaster (NVOAD) maintains an extensive list of volunteer and faith-based disaster relief organizations. NVOAD's Web site (http://www.nvoad.org/) provides links to many of these organizations.

It has proven helpful in some disasters to set up a coordinating council with the authority to receive and coordinate the funds and supplies donated by numerous organizations and individuals. Representatives of local, private, and relief organizations can serve as members on the council.

A number of secular and faith-based relief organizations are listed below. Every faith has numerous charitable and relief organizations. This list represents a sampling, drawn primarily from the links on the NVOAD Web site. This list is does not represent an endorsement or recommendation for an organization by the Chemical Stockpile Emergency Procedures Program. Rather, the list is intended to provide information and assistance to state and local emergency planners in developing resources for disaster recovery.

SECULAR RELIEF SERVICE ORGANIZATIONS

American Red Cross (ARC)

The ARC was chartered by Congress in 1905 to provide assistance in disasters. They have provided shelter and housing assistance, food, grants and general assistance, and counseling services. Warehouses, located in various parts of the United States, store emergency items, food, and blankets. An important service provided by the ARC is supervision of shelter operations. In addition, the ARC cooperates with and coordinates activities of other relief organizations.

National Headquarters
18th and E Streets, N.W.
Washington, DC 20006

Web site: http://www.redcross.org/

American Psychological Association (APA) Disaster Response Network

More than 1,500 psychologists volunteer free, on-site mental health services to disaster survivors and the relief workers who assist them. The APA coordinates this service with the ARC, FEMA, and state and local emergency management agencies.

American Psychological Association
750 First Street, NE
Washington, DC 20002-4242

Telephone: (800) 374-2721; (202) 336-5510. TDD/TTY: (202) 336-6123
Web site: http://www.apa.org/practice/drnindex.html

National Voluntary Organizations Active in Disaster

NVOAD coordinates the planning efforts of many voluntary organizations that respond to a disaster. Member organizations provide more effective and less duplication in service by coordinating efforts prior to a disaster. Once a disasters occurs, NVOAD or an affiliated state VOAD encourages members and other voluntary agencies to convene on site.

John Gavin, Executive Secretary
14253 Ballinger Terrace
Burtonsville, MD 20866

Telephone: (301) 890-2119
Fax: (253) 541-4915
Email: jgavin2@starpower.net
Web site: http://www.nvoad.org/

FAITH-BASED RELIEF ORGANIZATIONS

American Friends Service Committee

1501 Cherry Street
Philadelphia, PA 19102

Telephone: (215) 241-7000
Fax: (215) 241-7275
Email: afscinfo@afsc.org
Web site: http://www.afsc.org

Catholic Charities USA

Catholic Charities USA
1731 King Street, No. 200
Alexandria, VA 22314

Telephone: (703) 549-1390
Fax: (703) 549-1656
Web site: http://www.catholiccharitiesusa.org/disaster/index.htm

Christian Disaster Response International

P.O. Box 3339
Winter Haven, FL 33885-3339

Telephone: (863) 551-9554
Fax: (863) 551-8166
Email: drpat@gte.net
Web site: http://www.cdresponse.org/cdrhome.html

Church World Service

Church World Service Emergency Response Program
475 Riverside Drive, No. 606
New York, NY 10115

Telephone: (212) 870-3151
Fax: (212) 870-2236
24-hour Pager: (800) 780-0853
Email: Rick Augsburger, Director: raugs@aol.com
Web site: http://www.cwserp.org/

Evangelical Lutheran Church in America

ELCA Domestic Disaster Response
8765 West Higgins Road
Chicago, IL 60631

Telephone: (800) 638-3522, ext. 2822, or (773) 380-2822
Fax: (773) 380-2707
Web site: http://wwwtest.elca.org/disaster/

Mennonite Disaster Service

1018 Main Street
Akron, PA 17501

Telephone: (717) 859-2210
Fax: (717) 859-4910
Email: mds@mdsbinat.org
Web site: http://www.mds.mennonite.net/

Presbyterian Disaster Assistance

100 Witherspoon Street
Louisville, KY 40202-1396

Telephone: (800) 872-3283
Web site: http://www.pcusa.org/pda/

Salvation Army

National Headquarters
120 West 14th Street
New York, NY 10011

Telephone: (888) 234-8888 or (212) 337-7200
Fax: (212) 337-7478
Web site: http://www.salvationarmy.org/

Southern Baptist Disaster Relief

North American Mission Board, SBC
4200 North Point Parkway
Alpharetta, GA 30022-4176

Telephone: (770) 410-6000
Fax: (678) 410-6018
Web site: http://www.namb.net/dr/pages/beginnings.asp

United Jewish Communities

United Jewish Communities
Suite 11E
111 Eighth Avenue
New York, NY 10011

Telephone: (212) 284-6500
Web site: http://www.ujcna.org

United Methodist Church Committee on Relief

475 Riverside Drive
Room 1470
New York, NY 10115

Telephone: (800) 554-8583
Web site: http://gbgm-umc.org/umcor/emergency.stm

Volunteers of America

Volunteers of America
National Office
1660 Duke Street
Alexandria, VA 22314-3421

Telephone: (800) 899-0089 or (703) 341-5000
Fax: (703) 341-7000
Email: voa@voa.org
Web site: http://www.voa.org/

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ANNEX D: TECHNICAL CONTACTS

Telephone numbers and Web sites for selected federal government and national private organizations are listed in the table below.

Organization	Contact Information
Agency for Toxic Substances and Disease Registry (ATSDR)	Information (888) 422-8737 or (404) 498-0110 Emergency: (404) 498-0120 http://www.atsdr.cdc.gov/
Centers for Disease Control (CDC) – National Center for Environmental Health – National Institute for Occupational Safety and Health	Telephone: (404) 639-3311 http://www.cdc.gov Telephone: (770) 488-7100 http://www.cdc.gov/nceh/ Telephone: (800) 356-4674 http://www.cdc.gov/niosh/homepage.html
Environmental Protection Agency (EPA) – Chemical Emergency Preparedness and Prevention Office	RCRA/Superfund/EPCRA information center: (800) 424-9346 or (703) 412-9810 http://www.epa.gov http://www.epa.gov/ceppo/
National Institute for Chemical Studies	Telephone: (304) 346-6264 http://www.nicsinfo.org/
National Fire Protection Association	Telephone: (617) 770-3000 http://www.nfpa.org
National Response Center (spill reporting)	Emergency hotline: (800) 424-8802 http://www.nrc.uscg.mil/index.htm
Occupational Safety and Health Administration	Telephone: (800) 321-OSHA (6742) http://www.osha-slc.gov/index.html

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ANNEX E: PERSONAL PROTECTIVE EQUIPMENT

The following garments and equipment are approved for Chemical Stockpile Emergency Preparedness Program use. Source: communication from Robert Weiss, SBCCOM, 7 February 2002.

Commercial Protective Suits

Manufacturer/Supplier	Model/Style	Number
Kappler	Responder Coverall	41255
Kappler	CPF3 Coverall	3T428
ADI Technologies	Mark IV Overgarment	NATO Stock No.
	Olive Drab	8415-99-130-7748/7751
	Woodland	8415-99-130-6921/24&6940
	Desert	8415-99-130-7086/7090

Commercial Powered Air Purifying Respirators (PAPRs)

PAPR	Cartridge	NIOSH Approval No.
KASCO Venus T8	ZAP3	TC-23C-1811
MSA Optimair 6A	GMA-H	TC-23C-1263
MSA Optimair 6A	GMC-H	TC-23C-1056
Neoterik TF3	NP2532	TC-23C-1529
3M BE7	AP3	TC-23C-0483
3M BE7	AEP3	TC-23C-0647
3M BE7	FR-57	TC-23C-2072
3M BE10	AP3	TC-23C-1885
3M BE10	AEP3	TC-23C-1884
3M BE10	FR-57	TC-23C-2071
3M GVP-4M	GVP-443	TC-23C-1478

U.S. Department of Defense (DoD) Protective Equipment

Item	NSN	Size
Chemical Protective Glove (25 mil)	8415-01-033-3517	S
Chemical Protective Glove (25 mil)	8415-01-033-3518	M
Chemical Protective Glove (25 mil)	8415-01-033-3519	L
Chemical Protective Glove (25 mil)	8415-01-033-3520	XL
Chemical Protective Glove (14 mil)	8415-01-138-2497	S
Chemical Protective Glove (14 mil)	8415-01-138-2498	M
Chemical Protective Glove (14 mil)	8415-01-138-2499	L
Chemical Protective Glove (14 mil)	8415-01-138-2500	XL

DoD Protective Equipment (Cont'd.)

Item	NSN	Size
Chemical Protective Glove (7 mil)	8415-01-138-2501	S
Chemical Protective Glove (7 mil)	8415-01-138-2502	M
Chemical Protective Glove (7 mil)	8415-01-138-2503	L
Chemical Protective Glove (7 mil)	8415-01-138-2504	XL
Cotton Glove Insert	8415-01-138-2494	S
Cotton Glove Insert	8415-01-138-2495	M
Cotton Glove Insert	8415-01-138-2496	L
Black Vinyl Overboots (BVO)	8430-01-317-3374	3
Black Vinyl Overboots (BVO)	8430-01-317-3375	4
Black Vinyl Overboots (BVO)	8430-01-317-3376	5
Black Vinyl Overboots (BVO)	8430-01-317-3377	6
Black Vinyl Overboots (BVO)	8430-01-317-3378	7
Black Vinyl Overboots (BVO)	8430-01-317-3379	8
Black Vinyl Overboots (BVO)	8430-01-317-3380	9
Black Vinyl Overboots (BVO)	8430-01-317-3381	10
Black Vinyl Overboots (BVO)	8430-01-317-3382	11
Black Vinyl Overboots (BVO)	8430-01-317-3383	12
Black Vinyl Overboots (BVO)	8430-01-317-3384	13
Black Vinyl Overboots (BVO)	8430-01-317-3385	14
Black Vinyl Overboots (BVO)	8430-01-450-0359	15
Black Vinyl Overboots (BVO)	8430-01-450-0357	16
Black Vinyl Overboots (BVO)	8430-01-450-0358	17
Black Vinyl Overboots (BVO)	8430-01-450-0360	18
Toxicological Agent Protective Apron	8415-00-281-7813	S
Toxicological Agent Protective Apron	8415-00-281-7814	M
Toxicological Agent Protective Apron	8415-00-281-7815	L
Toxicological Agent Protective Apron	8415-00-281-7816	XL
Chemical Protective PAPR Hood	N/A	N/A
Kit, Bag Flyers (Ready Bag)	8460-00-606-8366	N/A

ANNEX F: CHEMICAL AGENT EXPOSURE STANDARDS

The chemical agent exposure standards given in the tables in this appendix have been published by military and civilian authorities in either proposed or final form. Standards for air, drinking water, soil, and total chronic exposure are included. The standards are based on prevention of long-term toxic effects. In general, the standards were not developed specifically as a basis for Chemical Stockpile Emergency Preparedness Program recovery decisions. Some were developed as a basis for determining the need for use of personal protective equipment. The soil contamination standards were evaluated primarily for determining whether contaminated on-post areas can be leased or conveyed for civilian redevelopment.

In addition to these standards, standards for milk and unprocessed produce have been proposed in a Technical Memorandum by Oak Ridge National Laboratory (see Watson et al., 1992, *Estimated General Population Control Limits for Unitary Agents in Drinking Water, Milk, Soil, and Unprocessed Food Items*, ORNL/TM-12035, Oak Ridge, TN (Jan.).

Table F.1 Chemical Agent Multimedia/Toxicity Standards Status Table: Existing and proposed criteria as of 3/19/01 POC: V. Hauschild, USACHPPM										
Media	**Standard**	**Population**	**Exposure Scenario**	**H/HD/HT (Mustard)**	**GA (Tabun)**	**GB (Sarin)**	**GD/GF**	**VX**	**Lewisite**	**Notes** (also see notes after table)
Water	**FDWS** (Field Drinking Water Standards) (µg/L)	Soldier	Safe for up to 7 days	200 [a]	20 [a]	20 [a]	20 [a]	20 [a]	200 [a]	1986 version is being superceded; new values shown have been endorsed by DoD (see memo ref.). Currently revised TBMed577 is a draft dated May 1999; final publication date TBD. Nerve agent standards are based on most toxic since field detection cannot differentiate. Specific standards include tabun – 140/46; sarin – 28/9/3; soman – 12/4; VX – 15/5.
			Normal/humid climate: 5 L/day	(140) [b]	(12* [b])	(12* [b])	(12* [b])	(12* [b])	(80 [b])	
			Dry climate: 15 L/day	(47 [b])	(4* [b])	(4* [b])	(4* [b])	(4* [b])	(27 [b])	
Soil (mg/kg) (ppm)	**HBESL-Residential** (Health-based Environmental Screening Level)	Adults and children	Daily exposure, lifetime	0.01 [c,d]	2.8 [c,d]	1.3 [c,d]	0.22 [c,d]	0.042 [c,d]	0.3 [c,d]	- EPA Region IX PRG soil risk assessment methods used - Uses GPLs and chronic toxicity values cited below (RfD, CSF, IUR) - Endorsed by the Department of the Army (DA) (ESOH); May 1999
	HBESL-Industrial	Adults	Frequent exposures: 250 d/yr for 30 yr	0.3 [c,d]	68 [c,d]	32 [c,d]	5.2 [c,d]	1.1 [c,d]	3.7 [c,d]	

Table F.1 Chemical Agent Multimedia/Toxicity Standards Status Table: Existing and Proposed Criteria as of 3/19/01 POC: V. Hauschild, USACHPPM										
Media	**Standard**	**Population**	**Exposure Scenario**	**H/HD/HT (Mustard)**	**GA (Tabun)**	**GB (Sarin)**	**GD/GF**	**VX**	**Lewisite**	**Notes** (also see notes after table)
Waste	**$HWCL_{sol}$**[e] *or* **LDR_{sol}**[f] (solid hazardous waste) (mg/kg)	Civilian/DoD worker	Possible occasional exposure at HW treatment facility	6.7 [e,f]	680 [e,f]	320 [e,f]	52 [e,f]	10 [e,f]	37 [e,f]	- EPA Reg IX PRG risk assessment methods used - GPLs and chronic toxicity values (RfD, CSF, IUR) used - Proposed in DA-proposed rule presented to the State of Utah and in an October 2000 CHPPM memo to PMCD; to date no official response received from Utah - Waste values not represented in any final report policy or guidance document
	$HWCL_{Liq}$[e] *or* **LDR_{Liq}**[f] (liquid hazardous waste) (mg/L)	Civilian/DoD worker	Possible occasional exposure at HW treatment facility	0.7 [e,f]	20 [e,f]	8.3 [e,f]	0.3 [e,f]	0.08 [e,f]	3.3 [e,f]	
	NHWCL[e] *or* Solid Waste Exemption Levels[f] (mg/kg or ppm)	Civilian/DoD worker	Possible occasional exposures at a non-HW land disposal facility	0.3 [e,f]	68 [e,f]	32 [e,f]	5.2 [e,f]	1.1 [e,f]	3.7 [e,f]	
Chronic Toxicity Criteria	**RfD** (Reference Dose) (mg/kg/d)	Civilian population	Chronic (lifetime) ingested dose that will produce adverse health effects	0.000007 [g,h,i,j]	0.00004 [g,h,i,j]	0.00002 [g,h,i,j]	0.000004 [g,h,i,j]	0.0000006 [g,h,i,j]	0.0001 [g,h,i,j]	NRC/COT (1999) gave general endorsement of values; outstanding issues (e.g., re: lewisite) were addressed in final DA endorsement letter of final RfDs (dated 16 Feb. 2000)
	CSF (Cancer Slope Factor) (mg/kg/d)	Civilian population	Potency of the agent by ingestion to increase cancer risk	7.7 [g,c]	Not determined to be a carcinogen.					- The NRC/1999 endorsed a less conservative HD slope factor of $(1.6\ mg/kg/day)^{-1}$; DA OTSG (February 00) Office of the Surgeon General (OTSG) has currently endorsed use of the 7.7.

Table F.1 Chemical Agent Multimedia/Toxicity Standards Status Table: Existing and Proposed Criteria as of 3/19/01 POC: V. Hauschild, USACHPPM										
Media	**Standard**	**Population**	**Exposure Scenario**	**H/HD/HT (Mustard)**	**GA (Tabun)**	**GB (Sarin)**	**GD/GF**	**VX**	**Lewisite**	**Notes** (also see notes after table)
	IUR (Inhalation Unit Risk) $(\mu g/m^3)^{-1}$	Civilian population	Potency of the agent by inhalation to increase cancer risk	4.1×10^{-3} k						Table 20 HD HCD, Nov. 2000

Notes and References for Table F.1

Notes:

( ) Numbers in parentheses are from draft sources.
GREEN Numbers in green are currently documented in official Army regulation/policy/or through (DA) Headquarters endorsement.
BLUE Numbers have been developed/endorsed by non-DoD federal proponents for Army and non-Army use.
RED Numbers are officially used/endorsed by Army/other approving entity source, but revisions are proposed/underway.
BLACK Numbers in black are final technical values but are not officially approved for implementation through a proponent agency.

References:

a) TB Med 577, *Sanitary Control and Surveillance of Field Water Supplies*, March 1986.

b) TB Med 577, *Sanitary Control and Surveillance of Field Water Supplies*, Final Draft May 1999 (final/official publication date TBD) and Memorandum, DASG-HS-PE, 16 April 1997, Subject: Tri-Service Field Water Standards for Nerve Agents.

c) *Health-based Environmental Screening Levels for Chemical Warfare Agents*, USACHPPM/ORNL Technical Report, March 1999.

d) Memorandum, Headquarters Department of the Army, Office of the Assistant Secretary for Installations, Logistics, and Environment, SUBJ: Derivation of Health-based Environmental Screening Levels (HBESLs) for Chemical Warfare Agents, 28 May 1999.

e) Memorandum, Department of the Army – Center for Health Promotion and Preventive Medicine; MCHB-TS-EES; SUBJ: Response to State of Oregon Comments on the Utah Chemical Agent Rule (UCAR), 23 October 2000. Note: This response includes USACHPPM Information Paper, *Management Criteria for Chemical Warfare Agent (CWA)-Contaminated Waste and Media,* dated 10 October 2000, as well as USACHPPM Technical Paper, *Chemical Warfare Agent Health-based Waste Control Limits,* dated September 2000.

f) U.S. Army-proposed Utah Chemical Agent Rule (UCAR), May 1999 (Volume 1, Section XI, Development of Health-based Waste Management Concentration Levels).

g) Memorandum, MCHB-CG-PPM, *Chronic Toxicological Criteria for Chemical Warfare Compounds*, 16 February 2000.

h) National Research Council, 1999, *Review of the U.S. Army's Health Risk Assessments for Oral Exposure to Six Chemical-warfare Agents*, National Academy Press, Washington, DC.

i) Opresko, et al., 1998, *Chemical Warfare Agents: Estimating Oral Reference Doses, Review of Environmental Contamination and Toxicology*, Vol. 156, pp. 1–183.

j) DA, 1996, *Interim Chronic Toxicological Criteria for Chemical Warfare Compounds*, Memorandum MCHB-DC-C, Office of the Surgeon General (4 June).

k) CHPPM: *Evaluation of Airborne Exposure Limits for Sulfur Mustard (HD): Occupational and General Population Exposure Criteria,* Technical Report 47-EM-3767-00, Nov. 2000.

Additional Information Regarding Chemical Warfare Agent Breakdown Products

Munro et al., 1999, “The Sources, Fate, and Toxicity of Chemical Warfare Agent Degradation Products,” *Environmental Health Perspectives*, **107**:12, pp. 933–974 (Dec.).

Table F.2 Chemical Agent Air Standards Status, Existing, and Proposed Standards as of 9/11/02									POC: V. Hauschild, USACHPPM
Airborne Exposure Limits (AELs) (mg/m^3)									
Standard	**Popula-Tion**	**Exposure Scenario**	**H/HD/HT**	**GA (Tabun)**	**GB (Sarin)**	**GD/GF**	**VX**	**Lewisite**	**Notes/ Status**
IDLH (Immediately Dangerous to Life/Health)	Civilian/DoD worker	1 time exposure	NA[a] **2**[d]	*0.2*[b, c] **0.1**[e]	[b,c] **0.1**[e]	[b, c] **0.05**[e]	[b,c] **0.01**[e]	NA NA	– IDLH, WPL, STEL, and GPL values from final Army technical re-evaluation reports – Revisions to existing criteria not officially established in Army policy as of 1 May, but internal (MEDCOM) staffing of revised Army regulation (DA Pam 40-8, 40-173) underway; goal is to finalize DA Pams by end FY02. – STEL is new **proposed** standard not previously established. Note: CDC has proposed modified (lower than new Army proposed) values for the nerve agents in the *Federal Register* (Jan. 8 2002; 67 FR: 894-901). The Army did not concur with the CDC modifications (see reference i). No final CDC position has been identified. CDC is currently evaluating the Army-proposed HD values (references d, e, f). – Lewisite has not been reevaluated. Note: Lewisite values are all based on detection; no true IDLH exists (AR 385-61, Tables 2-2, 2-3.
STEL (Short-term Exposure Limit)	Civilian/DoD worker	Occasional 15-minute exposure (4x each day)	**0.003**[d] *(see note)*	**0.0004**[e] *(see note)*	**0.0004** [e] *(see note)*	**0.0002**[e] *(see note)*	**0.00004**[f] *(see note)*	NA NA	
WPL (Worker Population Limit)	Civilian/DoD worker	8-hr daily/ 30-yr. time-weighted average	[c,g,h] [c] *(see note)*	*0.0001*[b,c,h] *(see note)*	*0.0001*[b,c,h] **0.0001**[d] *(see note)*	*0.00003*[b,c,h] **0.00003**[d] *(see note)*	*0.00001*[b,c,h] **0.00001**[e] *(see note)*	*0.003* [b,c]	
GPL (General Population Limit)	Civilian population	24-hr/daily, lifetime time-weighted average	*0.0001*[c,g,h] **0.00002**[d] *(see note)*	*0.000003*[a,c] **0.000003**[e] *(see note)*	*0.000003*[b,d] **0.000003**[e] *(see note)*	*0.000001*[b,d] **0.000001**[e] *(see note)*	*0.000001*[b,c,h] **0.0000003**[f] *(see note)*	*0.003*[b,] 	

Table F.2 Cont'd.								
Acute Exposure Guideline Levels (AEGLs) (mg/m^3)								
AEGL Level	**Civilian Population Exposure Duration**	**H/HD/HT**	**GA (Tabun)**	**GB (Sarin)**	**GD/GF**	**VX**	**Lewisite**	**Notes/ Status**
AEGL – Level 1 Potential minor discomfort or noticeable effects; reversible.	10 min	**0.40** [j]	**0.0069**	**0.0069** [k]	**0.0035** [k]	**0.00057** [k]	NA	Sulfur mustard AEGLs have completed all stages of established review process (AEGL-NAC, *Federal Register*, and NRC). They were endorsed by the National Research Council (NRC) Committee on Toxicology (COT) as of Jan. 2001. The NRC will publish final values in CY 2002. Nerve agents (G-Agents, VX) AEGLs were proposed in Fed Register in May 2001; presented as interim AEGLs to the NRC-COT for final review in Feb. 2002. On 10 Sept. 2002, they were finalized, after changes were made to VX values (raised by a factor of 3, based on NRC recommendation that the relative potency of GB: VX is less than originally proposed). *These values will be published in Vol. 3 of the NRC series of AEGLs (anticipated early-mid 2003).*
	30 min	**0.13** [j]	**0.0040**	**0.0040** [k]	**0.0020** [k]	**0.00033** [k]	NA	
	1 h	**0.067** [j]	**0.0028**	**0.0028** [k]	**0.0014** [k]	**0.00017** [k]	NA	
	4 h	**0.017** [j]	**0.0014**	**0.0014** [k]	**0.00070** [k]	**0.00010** [k]	NA	
	8 h	**0.0083** [j]	**0.0010**	**0.0010** [k]	**0.00050** [k]	**0.000071** [k]	NA	
AEGL – Level 2 Effects become more obvious; potentially impacting functional abilities or ability to escape; potential delayed recovery	10 min	**0.60** [j]	**0.087**	**0.087** [k]	**0.044** [k]	**0.0072** [k]	NA	
	30 min	**0.20** [j]	**0.050**	**0.050** [k]	**0.025** [k]	**0.0042** [k]	NA	
	1 h	**0.10** [j]	**0.035**	**0.035** [k]	**0.018** [k]	**0.0029** [k]	NA	
	4 h	**0.025** [j]	**0.017**	**0.017** [k]	**0.0085** [k]	**0.0015** [k]	NA	
	8 h	**0.013** [j]	**0.013**	**0.013** [k]	**0.0065** [k]	**0.00104** [k]	NA	
AEGL – Level 3 Life-threatening and potential initial fatalities	10 min	**3.9** [j]	**0.76**	**0.38** [k]	**0.38** [k]	**0.029** [k]	NA	
	30 min	**2.7** [j]	**0.38**	**0.19** [k]	**0.19** [k]	**0.015** [k]	NA	
	1 h	**2.1** [j]	**0.26**	**0.13** [k]	**0.13** [k]	**0.010** [k]	NA	
	4 h	**0.53** [j]	**0.14** [j]	**0.070** [k]	**0.070** [k]	**0.0052** [k]	NA	
	8 h	**0.27** [j]	**0.10** [j]	**0.051** [k]	**0.051** [k]	**0.0038** [k]	NA	

Notes and References for Table F.2

Notes:

( ) numbers in parentheses are from draft sources.
GREEN Numbers in Green are currently documented in official Army regulation/policy/or through DA Headquarter endorsement.
BLUE Numbers have been developed/endorsed by non-DoD federal proponents for Army and non-Army use.
RED Numbers are still officially used/endorsed by Army/other approving entity source but revisions are proposed/underway.
BLACK Numbers are final/interim final technical values but are not yet approved for official implementation by proponent agency.
*STEL is new proposed standard not previously established.
** Lewisite values are all based on detection; no true IDLH exists (AR 385-61, Tables 2-2, 2-3).
PINK – Indicates ongoing CDC review of AELs and potential changes to "new" (in black) Army-proposed values.

References:

a) NA = not applicable.

b) DA Pamphlet 40-173, 1990, *Occupational Health Guidelines for the Evaluation and Control of Exposure to Nerve Agents GA, GB, GD, and VX*, Medical Services (4 Dec.).

c) AR 385-61, 1997, "The Army Chemical Agent Safety Program," *Safety* (28 Feb.)

d) USACHPPM, 2000, *Evaluation of Airborne Exposure Limits for Sulfur Mustard (HD): Occupational and General Population Exposure Criteria*, Technical Report 47-EM-3767-00 (Nov.).

e) Mioduszewski et al., 1998, *Evaluation of Airborne Exposure Limits for G-Agents: Occupational and General Population Exposure Criteria*, ERDEC-TR-489 (April) (Feb. 2000, Errata Summary).

f) Reutter et al., 2000, *Evaluation of Airborne Exposure Limits for VX: Occupational and General Population Exposure Criteria*, ECBC-TR-074 (Feb.).

g) DA Pamphlet 40-8, 1991, *Occupational Health Guidelines for the Evaluation and Control of Exposure to Mustard Agents H, HD, and HT*, Medical Services (Aug.).

h) The Centers for Disease Control (CDC) of the Department of Health and Human Services (DHHS), 1988, "Recommendations for Protecting Human Health and Safety against Potential Adverse Effects of Long-term Exposure to Low Doses of Agents GA, GB, VX, Mustard Agents (H. HT, HD) and Lewisite (L)," *Federal Register* Vol. 53, No 50, p. 8504 (Tuesday, Mar. 15).

i) Letter from Raymond J. Fatz, Deputy Assistant Secretary of the Army (Environment, Safety, and Occupational Health), to Paul Joe, Centers for Disease Control, 14 Mar. 2002; subject: "Comments to *Federal Register* Request for Comments" (8 Jan. 2002; 67 FR: 894-901).

j) Final Acute Exposure Guideline Levels (AEGLs) for Sulfur Mustard (Agent HD): the 6th Interim Report of the COT Subcommittee on AEGLs (Dec. 2001). The COT Subcommittee formally states, "The subcommittee concluded that the revised document conforms with the *Guidelines for Developing Community Emergency Exposure Levels for Hazardous Substances* (1993) and *Standing Operating Procedures for Developing Acute Exposure Guideline Levels for Hazardous Substances* (2001), and that no further modifications to the document are required." The final values will be formally published by the National Academy Press, expected out in CY 2002.

k) Final Acute Exposure Guideline Levels (AEGLs) for G-Agents, Final Temporary Acute Exposure Guideline Levels (AEGLs) for Nerve Agent VX: proposed in 66 FR 21940 (May 2, 2001) and upgraded to "Interim" and without any change in June 2001. Per National Research Council (NRC) Committee on Toxicology (COT) review, and NAC-AEGL meeting #26, 1201 Constitution Ave, NW, Rm 1117, EPA, Washing ton DC, 10 September 2002 G-agent and VX AEGLs were finalized after making changes to interim VX AEGLs (all raised by factor of 3). This will be documented in meeting minutes (not yet available) and in the final Nerve Agent AEGL technical support document, be formally published by the National Academy Press, expected out in early CY 2003.

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ANNEX G: ANALYTICAL LABORATORIES

A number of commercial and government laboratories are certified to work with chemical warfare agents (CWAs). These laboratories would be used when samples of soil, water, and vegetation needed to be analyzed because of suspected contamination with CWAs. Certified CWA laboratories use CWA standards to quantify their analysis. These standards are essential for ensuring that results from one laboratory can be compared to the results of another laboratory. The U.S. Army has a quality assurance program for the preparation, analysis, storage, and use of chemical agent standards. This program is called the Chemical Agent Standard Analytical Reference Material (CASARM) Program. The CASARM Program is managed by SBCCOM, which also certifies the CWA laboratories. (Source: *CSEPP Off-Post Monitoring IPT Report*, Dec. 1998.)

The facilities listed below were certified (as of 01 Dec. 2001) as capable of handling CWAs up to certain thresholds of quantity and concentration. Particular circumstances at the time of a chemical event can help to determine which labs would be best suited to the analysis task, which are available, how quickly they can set up to process samples, and how quickly they can process samples.

The list, provided by SBCCOM, is current as of 01 Dec. 2001. Some facilities are listed as "government facility" or "contractor chemical agent facilities," meaning they were certified to handle neat (i.e., undiluted) chemical agent as well as research, development, testing, and evaluation (RDTE) dilute solutions of chemical agent. Other facilities are listed as "contractor RDTE solution facilities," meaning they were certified to handle only small quantities of RDTE dilute solutions of chemical agent. (See AR 50-6, Table 6-1, for a list of the threshold quantities of RDTE dilute solutions of chemical agent.)

Since environmental samples originating off-post should not contain concentrations of agent exceeding RDTE dilute solution thresholds, any of the facilities listed below should be qualified to handle off-post recovery samples.

Government Facility

U.S. Army Edgewood Chemical Biological Center
Chemical Evaluation Laboratory
Building E5100
Aberdeen Proving Ground, MD 21010-5424
Telephone: (410) 436-3555/2772
Fax: (410) 436-3003
POC: Mr. Michael Gooden

Contractor Chemical Agent Facilities

Battelle
505 King Avenue
Columbus, OH 43201
Telephone: (614) 424-5404
Fax: (614) 424-4905
POC: Dr. Matthew Blais
Bailment Agreement #DAAD13-00-H-0002

Calspan-UB Research Center
P.O. Box 400
Buffalo, NY 14225
Telephone: (716) 592-0008
Fax: (716) 592-7529
POC: Ms. Meg Stapleton
Bailment Agreement #DAAD13-00-H-0008

Geomet Technologies, Inc.
8577 Atlas Drive
Gaithersburg, MD 20877
Telephone: (301) 417-9605
Fax: (301) 990-1925
POC: Mr. Frank Kelly
Bailment Agreement #DAAD13-00-H-0003

Southwest Research Institute
6220 Culebra Road
P.O. Drawer 28510
San Antonio, TX 78228-0510
Telephone: (210) 522-5168
Fax: (210) 522-3649
POC: Mr. Joseph Brewer
Bailment Agreement #DAAD13-00-H-0007

IIT Research Institute
10 West 35th Street
Chicago, IL 60616
Telephone: (312) 567-4318
Fax: (312) 567-4286
POC: Ms. Jean Graf-Teterycz
Bailment Agreement #DAAD13-00-H-0010

Midwest Research Institute
425 Volker Boulevard
Kansas City, MO 64110
Telephone: (816) 753-7600, ext. 1733
Fax: (816) 754-8420
POC: Mr. Chris Bailey
Bailment Agreement #DAAD13-00-H-0004

Southern Research Institute
2000 Ninth Avenue South
P.O. Box 55305
Birmingham, AL 35255-5305
Telephone: (205) 581-2219
Fax: (205) 581-2698
POC: Dr. Ralph Spafford
Bailment Agreement #DAAD13-00-H-0009

Contractor RDTE Solution Facilities

Argonne National Laboratory
9700 South Cass Avenue
Argonne, IL 60439-4832
Telephone: (630) 252-9873
Fax: (630) 252-6407
Dr. Hugh J. O'Neill

CMS Field Products/O-I Analytica
2148 Pelham Parkway, Bldg. 400
Pelham, AL 35124
Telephone: (205) 733-6900
Fax: (205) 733-6919
POC: Ms. Susanna Keeton
Bailment Agreement #DAAD13-00-H-0005

QuickSilver Analytics, Inc.
1309 Continental Drive, Suite N
Abingdon, MD 21009-2335
Telephone: (410) 676-4300
Fax: (410) 676-4004
POC: Mr. Rodney D. Hudson
Bailment Agreement #DAAD13-00-H-0006

Truetech, Inc.
680 Elton Avenue
Riverhead, NY 11901-2585
Telephone: (631) 727-8600
Fax: (631) 727-7592
POC: Mr. Daniel N. Kohn
Bailment Agreement #DAAA15-89-H-0009

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ANNEX H: CLEANUP PROCEDURES UNDER CERCLA AND RCRA

H.1 OVERVIEW

This annex describes and compares procedures, rules, and responsibilities for environmental cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (42 USC § 9601 *et seq*.) (SARA), and the Resource Conservation and Recovery Act of 1976 (42 USC § 6901) (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984. Both statutes are designed to ensure that the environmental impacts associated with the release are thoroughly investigated, and that timely remedial action is taken to protect the public health, welfare, and the environment. Both statutes would potentially apply to cleanup of a chemical incident or accident (CAI).

Below are summaries of requirements under each statute and how they might apply to cleanup after a chemical event. Following the summaries is a brief discussion of options for negotiating an Interagency Agreement to cover cleanup requirements under both statutes.

H.1.1 Requirements under CERCLA

Pursuant to Executive Order 12580 (23 January 1987), the U.S. Department of Defense (DoD) is authorized to act, consistent with the National Contingency Plan (NCP), to remove or arrange for the removal of, and provide for remedial action relating to such release, or to take any other response measure consistent with the NCP that the DoD deems necessary to protect the public health or welfare or the environment (CERCLA Section 104(a)). The DoD is authorized to investigate, monitor, survey, test, and gather other information as it may deem necessary or appropriate to identify the existence and extent of the release, the source and nature of the contamination involved, and the extent of danger to the public health or welfare or to the environment, including such planning, legal, fiscal, economic, engineering, architectural, and other studies or investigations as it may deem necessary or appropriate to plan and direct response actions (CERCLA Section 104(b)). The DoD has additional responsibilities set forth in Section 211 of CERCLA, under the Installation Restoration Program (IRP) (Defense Environmental Restoration Program). The IRP includes the "correction of environmental damage (such as detection and disposal of unexploded ordnance) which creates an imminent and substantial endangerment to the public health or welfare or to the environment."

Under CERCLA Section 120, the affected site is to be evaluated for inclusion on the National Priorities List (NPL) under the same guidelines as a nonfederal facility. If the site is listed on the NPL, within six months thereof, the DoD, in consultation with the U.S. Environmental Protection Agency (EPA) and the appropriate state authorities, must commence a remedial investigation/feasibility study (RI/FS) for the site. The Agency reviews the RI/FS, and within 180 days thereafter, the DoD shall enter into an Interagency Agreement with the EPA for the expeditious completion of all necessary remedial actions. Substantial

continuous physical on-site remedial action shall be commenced at the site no later than 15 months after completion of the RI/FS (CERCLA Section 121(e)(2)).

If the site is placed on the NPL, the DoD and the EPA will select the final remedial action to carry out in accordance with Section 121 (relating to cleanup standards) (CERCLA Section 104(c)(4)). If the site is not on the list, the DoD will carry out the remedial action consistent with SARA Section 211 and the IRP guidance. As the lead agency, the DoD will select the final remedial action.

Section 121 requires the remedial action to be in accordance with the NCP, to the extent possible, and cost-effective, taking into account the total short- and long-term costs of such alternative actions, including the costs of operation and maintenance for the entire period during which such activities will be required. Permanent solutions and alternative treatment technologies or resource recovery technologies must be used to the maximum extent practicable. Under Section 121, the remedial action selected shall attain a degree of cleanup that assures the levels of contaminants remaining at the site meet any applicable or relevant and appropriate requirement (ARAR), criteria, or limitation under any federal environmental law, including, but not limited to, the Toxic Substances Control Act; the Safe Drinking Water Act; the Clean Air Act; the Clean Water Act; the Marine Protection, Research, and Sanctuaries Act; or the Solid Waste Disposal Act or any promulgated standards, requirements, criteria, or limitations under a state environmental or facility siting law that is more stringent than any federal standards, requirements, criteria, or limitations (and which have been identified to the DoD in a timely manner by the affected state) (CERCLA Section 121(d)). The DoD must work with the appropriate state environmental agency and the EPA to determine which standards, requirements, criteria, or limitations are applicable or relevant and appropriate to the release site location, the contaminant, or the proposed method of cleanup.

H.1.2 Requirements under RCRA

Requirements under RCRA will depend on local circumstances, including whether the facility has a storage or disposal permit for chemical weapons operations, or has "interim status" pending approval of such a permit. For facilities with permits, the requirements will depend on the particular provisions of the permit. (All of the states with Army chemical installations [Alabama, Arkansas, Colorado, Indiana, Kentucky, Maryland, Oregon, and Utah] have obtained EPA authorization to administer RCRA permits and implement the RCRA corrective action program.) The following summary represents the most likely circumstances for most Chemical Stockpile Emergency Preparedness Program (CSEPP) sites.

Under RCRA, after immediate emergency response actions have been performed, the emergency coordinator must "provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility" (40 CFR 264.56(g)). Note that such material (for example, contaminated debris, soil, or equipment) then becomes hazardous waste that must be stored, handled, and accounted for in the same manner as other hazardous waste stored at the site.

If operations are shut down as a result of the event, before they may be restarted, the responsible Army official must notify the state that all emergency equipment listed in the contingency plan is cleaned and ready for deployment (i.e., that emergency response capability has been restored) (40 CFR 264.56(i)).

Within 15 days after the event, a report is due that details the incident, including identity and quantity of material involved, extent of any injuries, assessment of actual or potential hazards to human health or the environment, and estimated quantity and disposition of recovered materials (40 CFR 264.56(j)).

At installations where a final disposal facility permit has not yet been issued (i.e., facilities seeking a RCRA permit or operating under interim status), corrective actions to clean up any release will be required as part of the permit approval process, or the permitting authority may issue an administrative order requiring cleanup (42 USC 6904(u), 42 USC 6908(h)). Such requirements can include corrective actions to be performed off-post (42 USC 6904(v)). However, if there are difficulties in obtaining permission to perform required cleanup actions off-post, the Army can appeal to the permitting authority for relief from those requirements.

On May 1, 1996, the EPA withdrew its 27 July 1990 Corrective Action Proposed Rule and introduced a new strategy for promulgating regulations governing corrective actions. The new proposed rule does not contain specific regulations; however, it includes a general description of the RCRA corrective action process. The process includes five elements: initial site assessment, site characterization, interim actions, evaluation of remedial alternatives, and implementation of the selected remedy.

Approval of the final remedy by the authorizing agency will vary from state to state. In the absence of final regulations addressing completion of corrective measures, the new proposed regulation suggests that facilities use the requirements for completion of corrective measures proposed in 1990 as guidance for developing site-specific procedures for completion of corrective measures. At a minimum, the public and affected community should be given notice and an opportunity to comment before a corrective action implementation is terminated and a facility is released from its RCRA corrective action obligations. (See Announcement of Availability and Request for Comment on "Completion of Corrective Action Activities at RCRA Facilities" Guidance, published by the EPA on 27 February 2002 (67 *Federal Register* [FR] 9174)).

At installations where a final disposal facility permit has been issued, cleanup would be conducted under permit conditions. Temporary storage of contaminated debris, wreckage, soil, or other contaminated items resulting from the event may require modification of the permit to accommodate a Corrective Action Management Unit or Temporary Unit (40 CFR 264.552, 264.553.)

H.1.3 Use of Interagency Agreements to Reduce Duplication of Effort

After a chemical event, cleanup requirements under both CERCLA and RCRA may apply. The potential exists for conflict as to oversight authority and standards to be applied.

In general, EPA policy states that cleanups under RCRA corrective action or CERCLA will substantively satisfy the requirements of both programs, unless program differences are sufficiently great to prevent deferral to the other program (EPA Memorandum from Steve A. Herman, Assistant Administrator, Office of Enforcement and Compliance Assurance Coordination and Elliott P. Laws, Assistant Administrator, Office of Solid Waste and Emergency Response, to RCRA/CERCLA National Policy Managers and Regions I-X Agency, re: "Coordination between RCRA Corrective Action and Closure and CERCLA Site Activities, available at http://www.epa.gov/swerffrr/documents/924memo.htm; see also U.S. EPA Corrective Action for Releases from Solid Waste management Units at Hazardous Waste management Facilities; Proposed Rule, 61 FR 19441, 1 May 1996).

The EPA generally favors RCRA oversight of cleanup at sites that are eligible for or already listed on the NPL under CERCLA. Transfer to RCRA oversight is referred to as "deferral" or "deletion." This policy was extended to federal facilities in 1997. (Listing and Deletion Policy for Federal Facilities, interim final policy statement, 13 Nov. 1997 (62 FR 62523, 24 Nov. 1997, available at http://www.epa.gov/swerffrr/documents/40cfr300.htm.)

The EPA encourages the use of Interagency Agreements to resolve any issues and provide for a cooperative effort on cleanup of federal facilities. There are a number of options for such agreements, including a Federal Facility Agreement, a consent order, and a Facility-Lead Agreement. What type of agreement is most appropriate and what type of issues it must address will depend on many factors including the nature of the release, the permit situation at the installation, and the presence of other, ongoing installation restoration projects. The Association of State and Territorial Solid Waste Management Officials (ASTSWMO) has developed a guide for the transition from federal removal action to state remediation, entitled *Guide for Coordination of Federal Removal Actions with State Remedial Activities*, Nov. 2001 (available at the ASTSWMO Web site, http://www.astswmo.org).

Finally, any given installation may already have adequate physical arrangements and oversight mechanisms in place to cover post-event cleanup. While events that lead to protective actions off-post have been exceedingly rare, leaking munitions per se are not rare, and every chemical storage installation has had to deal with them. The challenges of a post-emergency cleanup may not be drastically different in quality from those faced regularly in response to leaking munitions.

ANNEX I: MILITARY CLAIMS AUTHORITY

Processing Claims for Damages under the Federal Tort Claims Act, Military Claims Act, and Personnel Claims Act

I.1 INTRODUCTION

This annex contains the following:

- Summary of authority provided by statutes
- Discussion of legal limits on statutory authority
- Overview of the Army Claims Service
- List of relevant points of contact
- Citations to relevant statutes, regulations, guidance documents, and other references for this annex

I.2 SUMMARY OF STATUTORY AUTHORITY

I.2.1 Overview

The Federal Tort Claims Act (FTCA), Military Claims Act (MCA), and Military Personnel and Civilian Employees Claims Act, herein Personnel Claims Act (PCA), authorize certain types of claims against the United States. The FTCA provides relief for injury or damage due to negligence or willful conduct by federal personnel. It requires claimants to pursue their claim administratively, with a right to bring suit in federal court if the claim is denied or not acted upon. The MCA and PCA also provide for relief against the federal government, but only via administrative procedure; they do not include a right to judicial review if the claim is administratively denied. Claims against the U.S. Army under these three statutes are administered by the U.S. Army Claims Service (USARCS), a field operating agency of the Office of the Judge Advocate General headquartered at Fort Meade, MD. The mission of USARCS is to investigate, process, and settle such claims.

I.2.2 Federal Tort Claims Act

The FTCA waives sovereign immunity for certain tort claims against the United States and its departments and agencies. Such claims are based on allegations of negligence or willful misconduct by government personnel. A plaintiff seeking compensation for injury or damage under the FTCA must first seek recourse through an administrative process, but if the

government denies the claim or takes no action within a reasonable time frame, the law provides a right of appeal to the relevant U.S. District Court (28 U.S.C. §2675). The U.S. Department of Justice (28 CFR 14) and the U.S. Army (AR 27-20, 32 CFR 536) have published guidelines for implementation. In general, the FTCA is intended to mimic, in a limited way, the tort liability of private entities. Claims brought under the FTCA are evaluated according to the law of the state in which they are filed; for example, the state's doctrine on contributory negligence would apply.

I.2.3 Military Claims Act

The MCA provides an alternative remedy for persons injured by military activities. To pursue a claim under the MCA, a plaintiff need only allege injury or damage as a result of noncombat military activities [AR 27-20, §3-2 (31 Dec. 1997)]. Unlike the FTCA, under the MCA, there is no need to prove negligence or misconduct [AR 27-20, §3-5.a(2) (31 Dec. 1997)]. However, the MCA provides only an administrative remedy; there is no right of appeal to a court if the claim is denied.

I.2.4 Military Personnel and Civilian Employees Claims Act

The PCA allows military personnel and civilian federal government employees to make claims for loss or damage of personal property that occurs incident to service. The PCA, like the MCA, provides an administrative remedy but no right to judicial review. The PCA would apply, for example, where an Army employee claims that his or her car was damaged by a hazardous material release while on-post.

I.3 LIMITS ON STATUTORY AUTHORITY

I.3.1 Federal Tort Claims Act

The FTCA has been extensively litigated, and there is a substantial body of case law interpretation. Several limitations on FTCA authority might come into play in evaluating claims after a chemical accident or incident. Some of the major limitations are listed below:

- An FTCA claim requires a showing of wrongdoing (negligence or willful misconduct) on the part of government personnel. If there is no negligence or misconduct, there is no claim under FTCA. Plaintiffs must show that their injury was caused by such negligence or misconduct. As a practical matter, this means that claims based on FTCA authority will not be payable until the cause of the accident has been investigated and a determination made that the government is liable.

- The wrongdoing must be attributed to government personnel; wrongdoing on the part of independent contractors is not covered.

- Negligent conduct by government personnel may be immune from suit if the incident was in performance of a "discretionary function." The discretionary function exception is intended to protect governmental actions that involve the application of policy discretion or judgment. For example, a protective action decision would likely be immune from tort suit under the FTCA (even if it later proved to be ill-advised) because that type of decision involves weighing various options; balancing considerations of safety, cost, and obligation to various parties; and applying judgment under circumstances of uncertainty.

- FTCA claims cannot be based on a strict-liability theory of ultrahazardous activities or materials; there must be a showing of negligence or misconduct.

- The FTCA does not authorize advance payments.

- In general, a claim must be filed within two years of the damage or injury alleged.

I.3.2 Military Claims Act

The MCA allows compensation for personal injury or death, or for damage or loss of real or personal property, caused by military personnel or civilian U.S. Department of Defense employees acting within the scope of their employment, or that is otherwise "incident to noncombat activities." The types of damages covered are similar to those covered under the FTCA. Key limitations on MCA authority are listed below:

- There is no need to prove negligence or misconduct by the Army; however, plaintiffs still must show a causal link between their injury and governmental actions.

- The Secretary of Defense is authorized to pay claims up to $100,000; amounts in excess of that figure may be referred to the Secretary of the Treasury with a recommendation for payment.

- Settlement of a claim under the MCA is final, and the claimant waives any further claims from the event.

- If a claim is denied or a settlement cannot be reached, the MCA does not authorize judicial review.

Advance payments are authorized under the MCA. Authority may be delegated for advance payments up to $25,000; the Secretary of Defense must authorize advance payments from $25,000 up to $100,000. Advance payments do not constitute an admission of liability by the Army.

I.3.3 Military Personnel and Civilian Employees Claims Act

The PCA provides relief for a limited range of claimants and types of damages:

- It provides a remedy only for military personnel and civilian federal employees; it does not apply to off-post civilians or businesses, or to government contractor personnel. It might come into play for example if there were contamination or other damage to items in housing on the installation or damage to installation employees' cars.

- It is limited to property claims only; it does not provide for personal injury or wrongful death actions.

- Claims under the PCA are limited to $40,000 unless the claim arises from emergency evacuation or extraordinary circumstances, in which case the upper limit is $100,000.

I.4 OVERVIEW OF THE U.S. ARMY CLAIMS SERVICE

USARCS processes claims through a hierarchical structure of offices. Each level of office has a limited authority to process and settle claims; claims beyond a certain dollar value must be bumped up to the next level for approval. The first tier consists of the local Claims Processing Offices. A special Claims Processing Office may be set up specifically to process claims from a disaster. Area Claims Offices are the second, regional tier. Finally, decisions on some claims may have to be approved by a national-level executive such as the Judge Advocate General, the Secretary of the Army, or the U.S. Attorney General. The exact contours of settlement authority vary according to which statute controls; however, the first tier generally can pay out up to $5,000, the second tier up to $25,000, and the higher Army authorities up to $100,000. Some high-dollar claims must be referred to the U.S. Attorney General or the Secretary of the Treasury. There are also "total claims per incident" limits that may cause claims to be referred to the next tier; for example, a Claims Processing Office may settle individual FTCA claims for amounts up to $5,000, but if the total amount of all claims from a single incident exceeds $25,000, all of the claims must be approved by the Area Claims Office (AR 27-20, Chapter 1, Section II [Responsibilities]; Chapter 2, Section IX [Settlement Procedures]; and §§ 3-6, 4-6 [Settlement Authority]).

The Army has developed extensive and detailed guidance for the use of Army lawyers and other personnel involved in processing claims. Army Regulation (AR) 27-20 (31 Dec. 1997) explains the various statutes that authorize payment of claims and sets forth the administrative rules and structure of the Claims Service. In addition, the Army has a published a 500-page guidebook (DA Pam 27-162, April 1998) addressing the particulars of how specific types of claims should be investigated and evaluated for payment. These regulations and guides closely govern the claims process and help ensure that it is administered uniformly.

Among other things, Section 1-11 of AR 27-20 requires Area Claims Offices to develop disaster claims plans in order to expedite processing of the numerous claims that might be expected after a disaster. Such plans provide for augmented legal and investigative staffing and

establishment of special Claims Processing Offices near the disaster site. It can be expected that a major chemical weapons event would cause such plans to be implemented.

Standard Form 95, *Claim for Damage, Injury, or Death*, is used to submit claims to the federal government.

I.5 POINT OF CONTACT

U.S. Army Claims Service Executive Officer
4411 Llewellyn Avenue
Fort Meade, MD, 20755
Telephone: (301) 677-7009
Email: enrique.mendez@claims.army.mil

I.6 RELEVANT STATUTES, REGULATIONS, GUIDANCE DOCUMENTS, AND OTHER REFERENCES

I.6.1 Statutes

Federal Tort Claims Act, 28 U.S.C. §§2671-2680

Military Claims Act, 10 U.S.C. §§2731-2739

Military Personnel and Civilian Employees Claims Act, 31 U.S.C. § 3721

I.6.2 Claims Regulations and Guidance

Army Regulation (AR) 27-20, *Claims*, 31 Dec. 1997

U.S. Army, *Claims against the United States*, 32 CFR 536 (2000)

DA Pam 27-162, *Claims Procedures*, April 1998

U.S. Department of Justice, *Administrative Claims under Federal Tort Claims Act*, 28 CFR 14 (2000)

I.6.3 Electronic Resources

U.S. Army Claims Service home page: http://www.jagcnet.army.mil/claims/index.nsf?open

Army regulations, pamphlets, forms, and other policy documents: http://www.usapa.army.mil/

Brief description of the PCA: http://www.setaf.army.mil/osja/OSJA/claims/claims.htm

ANNEX J: RESPONSE COSTS UNDER CERCLA

J.1 INTRODUCTION

This annex contains the following:

- Summary of authority provided by statutes
- Discussion of policy restrictions and options for exercising authorities
- List of relevant points of contact
- Citations to relevant statutes, regulations, guidance documents, and other references for this annex

J.2 SUMMARY OF STATUTORY AUTHORITY

Under the Defense Environmental Restoration Program (DERP) statute, the Secretary of Defense is allocated responsibility for carrying out response actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for releases of hazardous substances from any facility or site owned by, leased to, or otherwise possessed by the United States and under the jurisdiction of the Secretary (10 U.S.C. § 2701(c)). Under CERCLA, a "removal" action includes various actions taken in response to a release or threatened release of a hazardous substance, including assessment, monitoring, and cleanup or removal of the released material, and also including "such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment . . . [including] measures to limit access, provision of alternative water supplies, temporary evacuation and housing of threatened individuals . . ." (42 U.S.C. § 9601(23)).

Under the CERCLA liability provisions (42 U.S.C. § 9607) and the federal facilities provision (42 U.S.C. § 9620), liability for the costs of removal will attach to the Army as the owner of the facility, unless the release is caused solely by an act of God, act of war, or (in some circumstances) the act of a third party.

Also under CERCLA, a general-purpose unit of local government can apply for reimbursement for emergency response expenses necessitated by a release or threatened release; however, such reimbursement "shall not supplant local funds normally provided for response," and the total of such payments is limited to $25,000 (42 U.S.C. § 9623).

CERCLA authorizes cleanup of spilled hazardous materials under the National Contingency Plan (NCP) (40 CFR Part 300) under the direction of an On-Scene Coordinator. The NCP contains extensive procedural and substantive requirements concerning the remediation process; however, that process is outside the scope of this document.

J.3 OPTIONS FOR EXERCISING CERCLA AUTHORITY

Two questions apply to compensation for evacuee and state/local government response costs after a chemical event: (1) Do CERCLA and DERP authorize compensation for this type of expense? (2) If so, what funds can be used to pay such compensation?

CERCLA authority has been used to pay compensation for evacuation expenses associated with cleanup of old chemical munitions found in the Spring Valley neighborhood of Washington, DC. The Spring Valley response differs, however, from a chemical weapons stockpile emergency in that it was an old release from a formerly used site, whereas a chemical weapons stockpile emergency would involve a currently operating facility.

(1) Do CERCLA and DERP authorize compensation for evacuees and state/local governments?

CERCLA and the DERP Act authorize expenditures for measures to protect public health and safety as part of a removal action. The statutes are quite general and authorize response action any time there is an actual or threatened release from a U.S. Department of Defense (DoD)-owned facility. At Spring Valley, this was interpreted as providing authority for paying evacuee expenses. As described in LTC Foote's subsequent article in *The Army Lawyer*,

> The decision to authorize payment of reimbursement expenses opened a Pandora's box of pragmatic questions on how to implement the policy. This largely fell on the Environmental Law Division and the Army Corps of Engineers to work out. On 25 January, the Baltimore District of the Corps of Engineers announced their provisional policies for reimbursing certain expenses incurred by residents evacuated from the Spring Valley area during Operation Safe Removal. The policy stated that certain expenses would be reimbursed, to include the actual cost of hotel rooms, verified by receipts (up to a maximum reimbursement rate of $150 per day) and the actual cost of meals (up to fifty dollars per person per day). Costs exceeding fifty dollars per day had to be substantiated by written receipt. Other costs would be reviewed on a case-by-case basis. To protect against fraud, a list of persons who lived in the evacuation area and were affected by the operation was prepared (to verify the identity of any person requesting reimbursement).

LTC Warren G. Foote, "Operation Safe Removal: Cleanup of World War I Era Munitions in Washington, D.C.," *The Army Lawyer*, August 1994.

With respect to governmental response costs, the U.S. Environmental Protection Agency (EPA) regulations contain many restrictions. Superfund money is only to be used for expenses considered to be over and above normal response costs. In addition, the $25,000 limit in the statute is interpreted as a cap on the "total pot." That is, the $25,000 is the maximum total amount that will be reimbursed, and if multiple governmental units are involved, they must determine how to split up the pot and submit a single joint application for reimbursement (40 CFR §310.9). The regulations also state that only local governments are eligible for such payments; state governments are not (40 CFR § 310.6). However, at Spring Valley, it was determined that this limit did not apply since Superfund account funds were not being used.

(See footnote 62 in Foote 1994.) Local government expenses were paid using a Cooperative Agreement under a Defense-State Memorandum of Agreement (DSMOA) (See footnote 64 and accompanying text in Foote 1994.)

A plausible interpretation of the statute is that the spending limit is intended to protect the Superfund in instances where expenses cannot be recovered from a responsible party. The EPA regulations provide that local governments must attempt to recover from responsible parties before applying for reimbursement (40 CFR § 310.14). Therefore, if the Army is a responsible party under CERCLA, it may have to pay for the governmental response costs as such, regardless of the limit in 42 U.S.C. § 9623.

(2) What funds can be used for payment of such compensation?

DoD and the Army have made a policy decision that DERP funds will be restricted to paying for expenses associated with releases that are not from currently operating facilities. This policy is reflected in the program guidance documents, *DOD Management Guidance for the Defense Environmental Restoration Program* (March 1998) and *U.S. Army Environmental Restoration Programs Guidance Manual* (April 1998). Those documents make it clear that response costs for an emergency at a currently operating facility are not eligible for use of environmental restoration funds. For example the Army guidance says in Section 1.2.3, "Activities that are not eligible for ER,A [Environmental Restoration, Army] funding include . . . Cleanup costs of spills associated with current operations."

Therefore, after a chemical event, CERCLA provides authority to compensate evacuees and state/local governments for associated emergency response expenses, as was done at Spring Valley. The source of funds to provide the compensation, however, would likely have to be resolved at the DA level or above.

J.4 LIMITS ON CERCLA AUTHORITY

CERCLA authority extends only to costs of removal and remediation, which include some emergency response costs as discussed in Section 2.1 above. CERCLA does not authorize payments for other claims such as business losses, personal injury or medical expenses, or diminished property value (see footnote 59 in Foote 1994.)

Recovery of expenses for medical monitoring or screening has been litigated extensively. The issue is generally framed as whether medical screening or monitoring costs for individuals at risk of exposure to a hazardous release are a legitimate "response" cost, as defined in the statute, or are tantamount to a medical damages claim, which would not be cognizable under CERCLA but rather would have to be pursued under the FTCA or MCA. Federal district courts have split on this issue. See, for example, *Brewer v. Ravan*, 680 F. Supp. 1176 (M.D. Tenn. 1988) allowing a claim for monitoring costs to proceed, but see *Woodman v. United States*, 764 F. Supp. 1467 (M.D. Fla. 1991) rejecting a similar action. Two circuit courts have determined that medical monitoring costs are not recoverable under CERCLA: the Tenth Circuit in *Daigle v. Shell Oil Co.*, 972 F.2d 1527, 1537 (10th Cir. 1992), and the Ninth Circuit in *Price v. United States Navy*, 39 F.3d 1011 (9th Cir. 1994).

Further discussion and references on this topic can be found in Annotation, "What Are 'Necessary Costs of Response' within Meaning of §107(a)(4)(b) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C.A. §9607(a)(4)(B))," William B. Johnson, J.D., 113 A.L.R. Fed. 1; Sessions, Carmen E., "Medical Monitoring Awards under CERCLA: Statutory Interpretation Versus Fundamental Fairness" 8 S.C Envtl. L.J. 81 (Summer 1999); and LaRatta and Paszamant, "Comment: Diagnosing Medical Monitoring Costs under CERCLA: Checking for a Pulse," 7 Vill. Envtl. L.J. 81 (1996).

J.5 CASE HISTORY: ADMINISTRATION OF EVACUEE COMPENSATION AT SPRING VALLEY

At Spring Valley, the U.S. Army Corps of Engineers (USACE) reimbursed lodging and meal expenses at the full rate of per diem in the locale for the head of household, plus two-thirds of this rate for each dependent over 12 years of age, plus one-half this rate for each dependent under 12 years of age. USACE used the entitlements of the Joint Travel Regulation for permanent change of station as a guide in developing the reimbursement procedures. They also reimbursed certain miscellaneous expenses as long as these expenses could be directly related to the evacuation.

The Baltimore District Chief Finance & Accounting Officer had the authority to approve payment. Payments were generally made within two weeks from receipt of a properly substantiated reimbursement request. They also established protest procedures that were resolved at the Division Counsel level. This appeal system was used when some "odd" claims were denied.

USACE's authority to pay these claims from DERA funds came from the Deputy Assistant Secretary of the Army for Installations, Logistics, and Environment. This authority was passed by the Corps of Engineers headquarters (CEMP-RF), through the North Atlantic Division Commander, to the Baltimore District Commander. Headquarters designated the North Atlantic Division Commander as the Final Administrative Appeal Authority for all evacuation expense reimbursement determinations made by the Baltimore District. The Baltimore District Commander, through his Chief, Resource Management Office, delegated to the Chief, Finance and Accounting Branch, the responsibility for receiving, reviewing, and paying reimbursable expenses found to be reasonable and allocable to the evacuation requirements at the Spring Valley site. This delegation noted that reimbursement of these expenses would be exempt from the terms of the Prompt Payment Act.

J.6 POINTS OF CONTACT

U.S. Army Judge Advocate General, Legal Services Agency, Environmental Law Division:

Litigation Center
901 North Stuart Street
Arlington, VA 22203
Telephone: (703) 696-1640

U.S. Army Corps of Engineers, Office of the Deputy Commanding General for Military Programs:

Chief, Environmental Restoration Division
GAO Building, 441 G Street, 3rd Floor
Washington, DC 20314-1000
Telephone: (202) 761-0579

Installation Support Division
GAO Building, 441 G Street, 3rd Floor
Washington, DC 20314-1000
Telephone: (202) 761-4761

U.S. Environmental Protection Agency:

Director, Chemical Emergency Preparedness Division
Ariel Rios Building
1200 Pennsylvania Avenue
Washington, DC 20460
Telephone: (202) 564-8600

Deputy Emergency Coordinator, Chemical Emergency Preparedness Division
Ariel Rios Building
1200 Pennsylvania Avenue
Washington, DC 20460
Telephone: (202) 564-3434

J. 7 RELEVANT STATUTES, REGULATIONS, AND OTHER REFERENCES

J. 7.1 Statutes and Regulations

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. §§ 9601 et seq.; available at http://uscode.house.gov/usc.htm.

Defense Environmental Restoration Program (DERP) 10 U.S.C. §§ 2701 et seq.; available at

http://uscode.house.gov/usc.htm.

DODI 4715.7, *Environmental Restoration Program*, 22 April 1996; available at http://www.dtic.mil/envirodod/Policies/DoDInst.htm.

EPA regulations implementing CERCLA: 40 CFR Parts 300–373; available at http://www.access.gpo.gov/nara/cfr. (Also known as the National Contingency Plan.)

Executive Order 12580, *Superfund Implementation* (23 Jan. 1987); available at http://www.archives.gov/federal_register/codification/executive_order/12580.html. (See also modifications from subsequent orders, available at http://www.nara.gov/fedreg/eo.html#top.)

J.7.2 DoD and Army Environmental Restoration Regulations, Guidance, and Analysis

AR 200-1, *Environmental Protection and Enhancement*, 21 Feb. 1997; available at http://www.usapa.army.mil. (Also published in *Code of Federal Regulations*, 32 CFR Part 650.)

DOD Management Guidance for the Defense Environmental Restoration Program (Sept. 2001); available at http://www.dtic.mil/envirodod/Policies/PDDERP.htm.

LTC Warren G. Foote, "Operation Safe Removal: Cleanup of World War I Era Munitions in Washington, D.C.," *The Army Lawyer*, Aug. 1994.

J.7.3 Defense-State Memoranda of Agreement (DSMOA)

Specific criteria, funding information, and services eligible for state reimbursement via DSMOA are contained in 57 *Federal Register* 28835, dated 29 June 1992.

General information on DSMOAs:
http://hq.environmental.usace.army.mil/programs/dsmoa/dsmoa.html

Forms and regulations on cooperative agreements:
http://www.access.gpo.gov/nara/cfr/waisidx_00/32cfr33_00.html

DERP annual reports to Congress:
http://www.dtic.mil/envirodod/Stakeholder/WStates/SI_WSDSMOA.htm

J.7.4 Cases and Articles on Recoverability of Medical Monitoring Costs under CERCLA

Brewer v. Ravan, 680 F. Supp. 1176 (M.D. Tenn. 1988) (allowing a claim for monitoring costs to proceed)

Woodman v. United States, 764 F. Supp. 1467 (M.D. Fla. 1991) (rejecting argument in *Brewer*)

Daigle v. Shell Oil Co., 972 F.2d 1527, 1537 (10th Cir. 1992) (denying medical monitoring costs)

Price v. United States Navy, 39 F.3d 1011 (9th Cir. 1994) (denying medical monitoring costs)

Annotation, "What Are 'Necessary Costs of Response' within Meaning of § 107(a)(4)(b) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C.A. § 9607(a)(4)(B))," William B. Johnson, J.D., 113 A.L.R. Fed. 1

Sessions, Carmen E., "Medical Monitoring Awards under CERCLA: Statutory Interpretation Versus Fundamental Fairness," 8 S.C Envtl. L.J. 81 (Summer 1999)

LaRatta and Paszamant, "Comment: Diagnosing Medical Monitoring Costs under CERCLA: Checking for a Pulse," 7 Vill. Envtl. L.J. 81 (1996)

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ANNEX K: DISASTER ASSISTANCE UNDER THE STAFFORD ACT

This annex contains the following:

- Overview of relevant legislation
- Summary of benefits available to individuals, businesses, and state/local governments
- Summary of procedure for requesting Presidential declaration of emergency or major disaster
- Summary of criteria used for evaluating such requests
- Federal Emergency Management Agency (FEMA) points of contact
- Citations to relevant statutes, implementing regulations, guidance materials, and other sources of information

K.2 OVERVIEW OF LEGISLATION

The Robert T. Stafford Disaster Relief and Emergency Assistance Act, P.L. 93-288, as amended, authorizes the President (FEMA per Executive Order 12148 as amended) to provide financial and other forms of assistance to individual households, state and local governments, and certain private nonprofit organizations following presidentially declared major disasters and emergencies. In general, the Stafford Act describes the declaration process, the types and extent of assistance that might be provided, and fundamental eligibility requirements.

The Disaster Mitigation Act of 2000 (P.L. 106-390) (DMA) made numerous changes in federal policy and programs for disaster preparedness and response. The DMA increased emphasis on mitigation and disaster prevention and made changes to disaster-response programs intended to streamline federal assistance.

K.3 ASSISTANCE AVAILABLE TO INDIVIDUALS, BUSINESSES, AND STATE/LOCAL GOVERNMENTS

The FEMA disaster assistance programs are primarily activated in natural disasters such as floods, hurricanes, tornadoes, winter storms, earthquakes, and wildfires, where widespread physical damage to homes, businesses, and community infrastructure is a direct result of the disaster. A chemical weapons emergency would likely have a different set of consequences. An evacuation might be required, causing residents to incur temporary housing costs and disrupting local businesses. Direct physical damage to the evacuated area, however, is considered unlikely. Nevertheless, damage requiring repair or replacement of homes and buildings might occur as an

indirect consequence of their being unoccupied, or due to a failure of utilities or emergency services. For example, fire damage might be caused or exacerbated by the inability to send firefighters into a restricted area.

Most of the information for this annex was compiled from primary sources (statutes and regulations), the FEMA publication *A Guide to the Disaster Declaration Process and Federal Disaster Assistance*, and the Congressional Research Service publication *FEMA and Disaster Relief* (1998). (See references section below for citations.)

Assistance under the Stafford Act requires a Presidential declaration; a summary of rules and procedures for such declarations is given below.

K.4 ACTIVATION OF THE FEDERAL RESPONSE PLAN

In addition to administering the financial assistance programs for individuals and state/local governments described below, FEMA coordinates emergency response efforts by other federal agencies pursuant to the Stafford Act. The Federal Response Plan (FRP) describes federal agency roles and assistance that can be provided after the President declares an emergency or major disaster. The FEMA Director appoints a Federal Coordinating Officer to coordinate federal efforts under the FRP. According to the introduction to the FRP, it "covers the full range of complex and constantly changing requirements following a disaster: saving lives, protecting property, and meeting basic human needs (response); restoring the disaster-affected area (recovery); and reducing vulnerability to future disasters (mitigation). The FRP does not specifically address long-term reconstruction and redevelopment" (FRP Basic Plan, I.B.2).

K.5 HOUSING AND FINANCIAL ASSISTANCE FOR INDIVIDUALS

Residents displaced by a disaster may be eligible for assistance with temporary housing. Assistance can include money to reimburse temporary lodging expenses or rent payments, and/or to help with repair or replacement of homes that were damaged (42 U.S.C. §5174). Only uninsured losses are covered. Temporary housing assistance is limited to a maximum of 18 months.

Funding is also available for "necessary expenses and serious needs of disaster victims that are not met through insurance or other disaster programs" (P.L. 106-390, §206(a).). This can include payments for medical, dental, and funeral expenses; personal property; and transportation.

FEMA currently provides housing expenses through one program (the Disaster Housing Assistance program) and other assistance through another (the Individual and Family Grant program). Effective May 2002, the DMA repeals the preexisting housing assistance and individual and family grant programs, replacing them with a single Individual Assistance Program (IAP) that combines housing assistance and financial assistance for other disaster-related expenses. As of the date of this document, implementing regulations for the new IAP have not yet been published either in draft or final form.

K.6 LOANS FOR INDIVIDUALS, FARMS, AND OTHER BUSINESSES

Small Business Administration Disaster Loans. The Small Business Administration (SBA) can make federally subsidized loans to repair or replace homes, personal property, or businesses that sustain damages not covered by insurance (15 U.S.C. §636(b)). Types of disaster loans provided by SBA include (1) home disaster loans, to homeowners and renters to repair or replace disaster-related damages to homes or personal property; (2) business physical disaster loans, to business owners to repair or replace disaster-damaged property, including inventory and supplies; and (3) economic injury disaster loans, which provide capital to small businesses and to small agricultural cooperatives to assist them through the disaster recovery period.

Farm Service Agency Loans. The U.S. Department of Agriculture can make loans of up to $500,000 for the repair or replacement of damaged farm and aquaculture property and supplies (7 U.S.C. §1961). Assistance is authorized after a Presidential declaration of a major disaster or upon declaration by the Secretary of Agriculture. Loans are provided at a 4.5% interest rate for no more than 20 years for production (up to 80% of loss) and no more than 40 years for property (up to 100% of loss). Assistance is provided only to those without access to credit.

K.7 OTHER AVAILABLE ASSISTANCE TO INDIVIDUALS

Unemployment Assistance. Disaster unemployment assistance authorized by Section 410 of the Stafford Act (42 U.S.C. §5177) is administered through the U.S. Department of Labor. It is available for persons unemployed as a result of the disaster. The assistance cannot exceed compensation limits established by the state and continues to be provided until the individual is reemployed, but for not more than 26 weeks.

Legal Services. Legal services, which include legal advice, counseling, and representation in non-fee-generating cases, may be provided to low-income individuals who require them as a result of a major disaster. Authorized by Section 415 of the Stafford Act, 42 U.S.C. §5182.

Food and Food Coupons. Section 412 of the Stafford Act (42 U.S.C. §5179) authorizes the President to distribute food stamps and surplus commodities to low-income households affected by a major disaster.

Crisis Counseling. Counseling provided through the National Institute of Mental Health may be available to individuals or groups coping with mental or emotional crises (42 U.S.C. §5183).

Gifts and Bequests (Cora Brown Fund). Other assistance may be provided from the Cora Brown Fund administered by FEMA, for needs of disaster victims that cannot be met through governmental or other organizational programs. The fund was established by bequest; administrative regulations may be found at 44 CFR §206.181.

K.8 ASSISTANCE TO STATE/LOCAL GOVERNMENTS

The Public Assistance Program (PAP) provides funds to state and local units of government and to certain non-profit organizations to meet immediate needs of communities and to repair or rebuild public buildings and infrastructure. FEMA regulations associated with the PAP are found at 44 CFR 206.200–206.399.

Grants. FEMA has established seven program areas to administer infrastructure assistance authorized in Title IV of the Stafford Act. These include (1) debris removal (Category A); (2) protective measures (Category B); (3) roads and bridges (Category C); (4) water control facilities (Category D); (5) public buildings (Category E); (6) public utilities (Category F); and (7) other (Category G).

Funding and technical assistance are provided to state and local governments and certain private non-profit institutions for the repair or replacement of facilities damaged or destroyed by the disaster. This assistance is generally in the form of a grant for not less than 75% of the cost of restoration (and hazard mitigation required by FEMA) of facilities, including schools. FEMA also can provide assistance for emergency protective measures, debris removal, emergency communications, and emergency public transportation. Authorized in Sections 403, 406, and 407 of the Stafford Act, 42 U.S.C. §§5170b, 5172, and 5173.

Community Disaster Loans. In a major disaster, the President is authorized to make loans to "any local government which may suffer a substantial loss of tax and other revenues . . . and has demonstrated a need for financial assistance in order to perform its governmental functions." (42 U.S.C. §5184.) Applicable FEMA regulations are found at 44 CFR 206.360–206.367. The loan is limited to 25% of the community's operating budget for the fiscal year in which the disaster occurs. Loan repayment can be canceled if tax revenues do not recover within three years. The DMA establishes a $5 million cap on community disaster loans (P.L. 106-390, §207).

K.9 HAZARD MITIGATION

Hazard Mitigation Grant Program (HMGP). Section 404 of the Stafford Act (42 U.S.C. §5170c) established a program to fund mitigation measures after a disaster. The purpose of the program is to prevent or minimize recurrence of similar disasters in the future. FEMA can contribute 75% of the cost of eligible mitigation measures. Total funding is limited to 15% of the estimated grants for individual assistance programs and public assistance projects. Under the DMA, this is raised to 20% if the state has an approved hazard mitigation plan in place at the time of the disaster (P.L. 106-390, §104).

Eligibility for the HMGP is the same as for the PAP state and local governments, Indian tribes and tribal organizations, and certain private non-profit organizations and institutions. The state, as grantee under the program, has responsibility for overseeing the funded projects.

K.10 PROCEDURE FOR REQUESTING PRESIDENTIAL DECLARATIONS

Assistance under the Stafford Act depends on a Presidential declaration of necessity. The Act establishes two categories of Presidential declarations: emergency and major disaster.

K.10.1 Emergency vs. Major Disaster

The governor can request an *emergency declaration* under 42 U.S.C. §5191(a) or the President can initiate it under 42 U.S.C. §5191(b) if the emergency situation is "one for which the primary responsibility rests with the United States" (42 U.S.C. §5191). Federal assistance authority for emergencies is limited and does not include all of the programs described in Section 2 above; however, it does include temporary housing assistance and assistance to state/local governments in providing food, medicine, and emergency response. Overall expenditures are limited to $5 million unless the President reports to Congress that additional assistance is needed.

The first use of the President's authority to self-initiate an emergency declaration was in 1995 after the attack on the Murrah federal building in Oklahoma City; an emergency was declared by the President on April 19, within 7 hours of the explosion.

A *major disaster declaration* authorizes assistance of various kinds, including long-term housing, disaster unemployment assistance, individual and family grant programs, grants to restore public facilities, community disaster loans, and others, with no overall financial limit. Unlike a declaration of emergency, the President may not initiate a declaration of major disaster; the state's Governor must request it (42 U.S.C. §5170). Procedures for this request are outlined below.

President Clinton declared a major disaster in Oklahoma City one week after the Murrah building bombing, following a request from the Governor of Oklahoma.

K.10.2 Procedure for Requesting Declaration

FEMA regulations outline the procedure for requesting relief assistance. Procedures for requesting a Presidential declaration of *emergency* are found in 44 CFR 206.35. A request may come from the governor or, for emergencies where the primary responsibility rests with the federal government, from the FEMA Regional Director, or another federal agency acting through the FEMA Regional Director. Procedures for requesting a Presidential declaration of a *major disaster* are found in 44 CFR 206.36. A request for a major disaster declaration must come from the governor and should be submitted to the appropriate FEMA Regional Director.

The statute and regulations lay out requirements for the content of requests for declarations. In general, they must include a statement to the effect that the Governor has activated the state response plan, that the emergency is beyond the state's capabilities to effectively respond, and that federal assistance is needed. The Governor's request for a major disaster declaration must include a pledge to pay a share of the costs incurred. Cost-sharing is discussed below.

Requests for declarations are to be sent to the local FEMA regional office. FEMA normally evaluates them at the regional level and then runs them up the chain to the FEMA Director and ultimately to the President. FEMA procedures for processing requests for declarations are set out in 44 CFR 206.37. These procedures do not limit the discretion of the President; in view of the federal nature of a chemical stockpile emergency, some or all of those procedural steps might be short-circuited in the actual event.

K.10.3 Criteria for Evaluating a Request for Declaration

FEMA has published criteria for evaluating requests for a major disaster declaration at 44 CFR 206.48. There are separate criteria for the PAP and the IAP. Factors considered in determining the need for assistance under the PAP include estimated cost per capita for the state (with a benchmark of $1/person), presence of concentrated local impacts, insurance coverage, hazard mitigation (i.e., were available means used to mitigate damage), other recent disasters, and availability of assistance from other federal programs. Factors considered in determining the need for assistance under the IAP include concentration of damages, trauma, presence of affected special populations, insurance coverage, assistance available from other sources, and average dollar costs per affected individual.

These criteria do not limit the discretion of the President; if there is a chemical event the President may choose to issue a declaration whether or not the criteria are met.

K.10.4 Cost-sharing

Assistance under the Stafford Act is usually provided on a cost-sharing basis in which the federal government picks up the majority of the cost but requires a significant contribution from the affected state. The Act provides generally that the federal share for emergency assistance under a Presidential emergency declaration or major disaster declaration will be not less than 75% [42 U.S.C. §§5170b(b), 5193(a)]. The text of the declaration usually includes a percentage for cost sharing. For example, after the Murrah building bombing in Oklahoma City, the President's emergency declaration dated 19 April 1995 provided for assistance at a 100% federal rate. A recent declaration of major disaster by President Bush due to severe storms and flooding in Alabama specified a 75% federal cost share (66 Fed. Reg. 15716 (20 March 2001)). Certain administrative costs associated with applying for and overseeing grants are reimbursed at a 100% level.

K.11 FEMA POINTS OF CONTACT

FEMA HQ

FEMA General Counsel
500 C Street SW, Washington, DC 20472
Telephone: (202) 646-3900

FEMA Regional Offices

Region I [Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont]

Federal Emergency Management Agency
J.W. McCormack Post Office and Court House, Room 442
Boston, MA 02109-4595
Telephone: (617) 223-9450

Region II [New Jersey, New York, Puerto Rico, Virgin Islands]

Federal Emergency Management Agency
26 Federal Plaza, Room 1337
New York, NY 10278-0002
Telephone: (212) 225-7209

Region III [Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia]

Federal Emergency Management Agency
615 Chestnut Street B Sixth Floor
Philadelphia, PA 19106
Telephone: (215) 931-5608

Region IV [Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee]

Federal Emergency Management Agency
3003 Chamblee-Tucker Road
Atlanta, GA 30341
Telephone: (770) 220-5200

Region V [Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin]

Federal Emergency Management Agency
536 South Clark Street
Chicago, IL 60605
Telephone: (312) 408-5501
Region VI [Arkansas, Louisiana, New Mexico, Oklahoma, Texas]

Federal Emergency Management Agency
Federal Regional Center, 800 North Loop 288
Denton, TX 76201-3698
Telephone: (940) 898-5104

Region VII [Iowa, Kansas, Missouri, Nebraska]

Federal Emergency Management Agency
2323 Grand Blvd., Suite 900
Kansas City, MO 64108-2670
Telephone: (816) 283-7061

Region VIII [Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming]

Federal Emergency Management Agency
Denver Federal Center, Building 710, Box 25267
Denver, CO 80225-0267
Telephone: (303) 235-4812

Region IX [American Samoa, Arizona, California, Guam, Hawaii, Nevada, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Republic of the Marshall Islands]

Federal Emergency Management Agency
111 Broadway, Suite 1200
Oakland, CA 94607-4052
Telephone: (510) 923-7100

Region X [Alaska, Idaho, Oregon, Washington]

Federal Emergency Management Agency
Federal Regional Center, 130 228th Street, SW
Bothell, WA 98021-9796
Telephone: (425) 487-4604

K.12 RELEVANT STATUTES, REGULATIONS, GUIDANCE, AND OTHER REFERENCES

Statutes and Regulations

Stafford Act, 42 U.S.C. §§5121 et seq.; available at http://uscode.house.gov/usc.htm

Disaster Mitigation Act of 2000, P.L. 106-390; available at http://uscode.house.gov/usc.htm
Small Business Administration authority for disaster loans: 15 U.S.C. §636(b)

U.S. Department of Agriculture authority for disaster loans to farms: 7 U.S.C. §1961

FEMA regulations for disaster assistance: 44 CFR Part 206

Federal Response Plan: http://www.fema.gov/rrr/frp/pdfs.shtm

FEMA Guidance and Summary Materials

The Legal room of the FEMA Online Library (http://www.fema.gov/library/lib10.htm) contains links to the text of the Stafford Act, Title 44 of the *Code of Federal Regulations*, and a PowerPoint briefing about the Disaster Mitigation Act of 2000.

Information about individual and public assistance, and guidance on the disaster declaration process, can be obtained from the FEMA Response and Recovery Directorate Web page, http://www.fema.gov/rrr/.

Other References

Keith Bea, Congressional Research Service, *FEMA and Disaster Relief* (1998); available (for a fee) at http://www.pennyhill.com/emergencymanagement/97-159gov.html.

Oklahoma Department of Civil Emergency Management, *After Action Report: Alfred P. Murrah Federal Building Bombing, 19 April 1995 in Oklahoma City, Oklahoma*; available at http://www.odcem.state.ok.us/archives/fema/1048/aar-cove.htm.

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ANNEX L: STATE EMERGENCY PREPAREDNESS STATUTES

Each state has a statute that addresses emergency management. The statutes generally specify that the Governor, and at the local level, a top county or municipal executive, can exercise particular emergency powers, including the power to declare a state or local "state of emergency" and implement protective actions. Emergency services statutes also typically assign responsibility for emergency planning and preparedness to particular officials. Following is a state-by-state summary of these statutes for the 10 Chemical Stockpile Emergency Preparedness Program (CSEPP) community states: the 8 states that host installations and the 2 states that fall within an installation's protective action zone.

Alabama

Emergency management powers and responsibilities are addressed in the Code of Alabama, Title 31, Chapter 9, Sections 31-9-1 to 31-9-24. The chapter establishes the Alabama Emergency Management Agency (AEMA), whose director is to "coordinate the activities of all organizations of emergency management within the state, and . . . maintain liaison with and cooperate with major commanders of the armed forces within the state, the state department of public safety, the state military department and with emergency management agencies and organizations of other states and of the federal government . . ." (Section 31-9-4(d)). AEMA's functions include medical and health services; rescue; communications; "radiological, chemical and other special weapons of defense"; evacuation; emergency transportation; and other related functions.

The statute empowers the Governor of Alabama to prepare a comprehensive emergency plan and program to be coordinated with federal and local government plans and programs to the extent possible. In a disaster, the Governor can declare a state of emergency during which the Governor may exercise various emergency powers, including the power to assume direct operational control of all emergency management forces in the state; "provide for and compel the evacuation of all or part of the population from any stricken or threatened area . . ."; control traffic; seize property for emergency response use; and perform "such other functions, powers and duties as are necessary to promote and secure the safety and protection of the civilian population" (Section 31-9-8). The statute also authorizes political subdivisions of the state to create local emergency management organizations. The local emergency management organizations can prepare local plans, in accordance with the state plan, establish local emergency operation centers, and otherwise prepare for and respond to disasters. However, there does not appear to be a local equivalent of the Governor's power to declare a state of emergency. Thus, any compulsory aspects of response apparently must be initiated at the state level.

Arkansas

Emergency management in Arkansas is addressed in the Arkansas Code of 1987 Annotated, Title 12, Chapter 75. Sections 12-75-109 to 111 establish the Arkansas Office of Emergency Management (OEM) and describe its powers and duties. The OEM is charged with preparation and maintenance of the State Disaster Plan; coordination with the federal

government, other states, and local governments; and review of local disaster plans and other emergency management activities. The statute also requires that local OEMs be maintained by each county and by those municipalities that the governor determines need one. Each local OEM must prepare a local emergency response plan and submit it to the state OEM for approval. There is also provision for inter-jurisdictional plans. Two or more local units of government may agree to jointly operate an OEM, or the governor may designate an inter-jurisdictional emergency planning district, combining two or more counties.

In a disaster, the governor is empowered to issue a declaration of disaster emergency, which activates all aspects of the disaster plan. Declaration of a disaster emergency enables the governor to exercise various emergency powers, including direct control of the resources of state and local agencies, suspension of regulatory compliance, and seizure of property (subject to compensation) needed for response. The governor may also "direct and compel the evacuation of all or part of the population from any stricken or threatened area . . .; prescribe routes, modes of transportation, and destinations in connection with evacuation; [and] control ingress and egress to and from a disaster area . . ." (Section 12-75-114). The principal executive officer of a local jurisdiction can declare a local disaster emergency, thereby activating the local plan. During the local disaster emergency, the principal executive officer can exercise powers similar to the governor's emergency powers within the local jurisdiction.

Colorado

Emergency management in Colorado is addressed in the Colorado Revised Statutes (C.R.S.), Title 24, Article 32 (Department of Local Affairs), Parts 21 (Office of Disaster Emergency Services); 22 (Compensation Benefits to Volunteer Civil Defense Workers); 23 (Civil Defense Liability–Public or Private); 24 (Evacuation of School Buildings for Civil Defense); 25 (Disaster Relief); and 26 (Colorado Emergency Planning Commission).

The statutes establishes the OEM within the Department of Local Affairs, division of local government (C.R.S. Section 24-32-2105). The OEM is responsible for developing and maintaining the state disaster plan and for providing assistance to local governments with their disaster plans.

The statute provides for special executive powers in an emergency: "A disaster emergency shall be declared by executive order or proclamation of the governor if the governor finds a disaster has occurred or that this occurrence or the threat thereof is imminent." (C.R.S. Section 24-32-2104) Such a declaration activates the state, local, and inter-jurisdictional emergency plans and confers a variety of special powers upon the governor. The Governor may compel evacuation, control access to affected areas, provide for temporary emergency housing, and perform other response actions. The Colorado statutes also provide for a Disaster Emergency Council of state government officials and agency heads to advise the Governor.

The principal executive officer of a political subdivision can declare a local disaster emergency, activating local and inter-jurisdictional emergency plans (C.R.S. Section 24-32-2109).

Illinois

Emergency management in Illinois is covered by the Illinois Emergency Management Agency Act, P.A. 85-1027 (1988), as amended by P.A. 87-168 (1991); codified in the Illinois Compiled Statutes, 20 ILCS 3305.

Section 5 of the Act establishes the Illinois Emergency Management Agency (IEMA) and describes the agency's powers and duties. IEMA is to "coordinate the overall emergency management program of the State," including planning, assistance, and oversight of local agency planning and arrangements for staff and resources that can be called upon when needed for emergency response (20 ILCS 3305/5). The Act also provides for a local emergency services and disaster agency for each political subdivision of the state (Section 10). Counties are the primary level for local agencies, except for municipalities with populations greater than 500,000. The Act also provides for mutual aid agreements between political subdivisions (Section 13) and for creation of mobile support teams that can be activated to augment agency response efforts in an emergency (Section 8).

In a disaster, the governor can issue a disaster proclamation that activates the state emergency operations plan. The disaster proclamation also enables the governor to exercise special emergency powers for up to 30 days, including use of state resources as necessary to cope with the disaster, temporary or permanent seizure of property (subject to compensation), recommendation of evacuation and control of ingress and egress to and from a disaster area, and arrangements for emergency housing (Section 7). At the local level, the principal executive officer of a political subdivision may declare a local disaster that activates the local emergency operations plan (Section 11). Local disaster declarations are limited to seven days, except upon consent of the political subdivision's governing board.

Indiana

The Indiana Code, Title 10, Article 4, Chapter 1 and Article 8, Chapter 2 create the Indiana State Emergency Management Agency, which is responsible for preparing and maintaining a state disaster plan, managing all aspects of the state disaster preparedness program, and coordinating with other governmental bodies. The code also requires that each political subdivision within the state be served by a local department of civil defense. Local governments may combine to form inter-jurisdictional disaster agencies. The governor may also require a political subdivision to establish and maintain a disaster agency jointly with one or more others, but only "with the concurrence of the affected political divisions" (Section 10-4-1-10). Local disaster agencies may prepare for emergencies by recruiting response personnel, establishing emergency operations centers (EOCs), and arranging for emergency supplies. The code also authorizes state and local emergency departments to form mutual aid agreements.

In an actual or imminent disaster, the governor may declare a state of disaster emergency. During the state of disaster emergency, the governor may exercise emergency powers, including the powers to use of all state and local government resources to cope with the emergency, commandeer private property (subject to compensation), assist in the evacuation of all or part of the population from a stricken or threatened area, prescribe evacuation routes, control access to

stricken areas, and provide for temporary emergency housing. There is no provision for declaration of emergency at the local level.

Kentucky

The Kentucky legislature revamped the emergency management law in 1998. Emergency management is now addressed in the Kentucky Revised Statutes, Chapters 39A through 39F. Responsibility for state emergency planning and management is delegated to the Division of Emergency Management. At the local level, each "city, county, urban-county or charter county government of this Commonwealth shall create, support, and maintain a local emergency management agency, which shall serve the public safety interest of the local government within the territorial boundaries of the city or county where the agency is created" (K.R.S. Sec. 39B.010). Local governments may establish joint emergency organizations. Local governments are authorized to expend funds for emergency planning and preparation, including establishing local EOCs, stockpiling supplies, and employing emergency response personnel.

In an actual or threatened emergency, the governor can declare that a state of emergency exists, activating certain supplemental powers on the part of the governor. During the state of emergency, the governor may direct and control all emergency response forces and seize (subject to compensation) certain types of private property needed for the response effort, including means of transportation and communication, stocks of fuel, food, clothing and medical supplies, and facilities such as buildings and plants. The governor may also "exclude all nonessential personnel" from the scene of the emergency, declare curfews, request assistance from the federal government, and "perform and exercise such other functions, powers, and duties as may be deemed necessary to promote and secure the safety and protection of the civilian population" (K.R.S. Sec. 39A.100). Similar powers are accorded to the local chief executive upon his or her declaration of a local state of emergency.

Maryland

The Maryland Emergency Management Agency Act is codified in the Annotated Code of the Public General Laws of Maryland, Article 16a, Sections 1–36. The Act establishes the Maryland Emergency Management Agency, which is responsible for carrying out the state emergency management program, including emergency planning and coordinating implementation of response measures in an emergency. There is also an Emergency Management Advisory Council, appointed by the governor, to advise the governor on matters pertaining to emergency management.

The governor can declare a state of emergency, which authorizes special emergency powers for up to 30 days. Upon declaration, the governor may (1) suspend the provisions of any statute, or of any rule or regulation of any state or local agency; (2) direct and compel the evacuation of all or part of the population from any stricken or threatened area within the state; (3) set evacuation routes and modes of transportation to be used during an emergency; (4) direct the control of ingress and egress to and from an emergency area, the movement of persons within the area, and the occupancy of premises therein; (5) authorize the utilization of any private property, in which event the owner of the property shall be compensated for its use and for any

damage to the property; (6) provide for temporary housing; and (7) authorize the clearance and removal of any debris and wreckage (Article 16a, Sec. 6a).

At the local level, "each political subdivision of [the] state is to establish a local organization for emergency management in accordance with the state emergency plan and program and shall participate in federal programs for emergency management" (Article 16a, Sec. 7). The directors of the local organizations are appointed by the governor upon recommendation of the local mayor, executive, or governing body. The local chief executive can declare a local state of emergency, valid for up to seven days. As provided in the statute, "The effect of a declaration of a local state of emergency is to activate the response and recovery aspects of any and all applicable local state of emergency plans and to authorize the furnishing of aid and assistance thereunder" (Article 16a, Sec. 6C).

Oregon

The legal framework for emergency management in Oregon is described in the Oregon Revised Statutes (O.R.S.), Chapter 401, Sections 401.015-401.990. The governor is responsible for the state emergency services system, assisted by the state OEM within the Department of State Police (O.R.S. Sec. 401.260). The OEM is responsible for coordinating the activities of all public and private emergency services agencies within the state and for establishing a liaison with other states and the federal government.

The governor can declare a state of emergency at the request of a county governing body or after determining that an emergency has occurred or is imminent. The declaration must describe the geographic area covered, which must be no larger than necessary to effectively respond to the emergency. During a declared emergency, the governor may exercise direct control over state agency resources and operations to effect response and recovery measures. The governor may also assume control of local law enforcement agencies, direct all rescue and salvage work, close roads and limit access to the emergency area, arrange for temporary housing, and "do all things deemed advisable and necessary to alleviate the immediate conditions" (O.R.S. Secs. 401.055–401.115).

At the local level, the executive officer or governing body of each county or city is responsible for the emergency services system within that jurisdiction. Each county must, and each city may, establish an emergency management agency directly responsible to the executive officer or governing body of the county or city. The functions of local emergency management agencies include "coordination of the planning activities necessary to prepare and maintain a current emergency operations plan, management and maintenance of emergency operating facilities from which elected and appointed officials can direct emergency and disaster response activities, and establishment of an incident command structure for management of a coordinated response by all local emergency service agencies" (O.R.S. Sec. 401.305).

Each county, city, or other municipal corporation may, by ordinance or resolution, set up its own policy and procedure for the declaration of a local state of emergency, including what officials are authorized to make such declarations and under what conditions. The state law authorizes local officials to order a mandatory evacuation after declaring a local state of emergency (O.R.S. Sec. 401.309).

Utah

Emergency management is addressed in Utah Code (U.C.), Title 63, Chapters 5 and 5a. The statute establishes a Division of Comprehensive Emergency Management within the Department of Public Safety and charges it with the responsibility to "prepare, implement and maintain programs and plans" for disaster prevention and response, including assistance to local officials in designing local plans, and coordination of emergency operations plans with the federal government.

The Utah Code also creates a Disaster Emergency Advisory Council, consisting of state officials and the heads of numerous state agencies, "to provide advice to the governor on matters relating to state government emergency disaster response and recovery actions and activities" (U.C. Sec. 63-5-4).

During a declared state of emergency, the governor is authorized to utilize all available resources of state government as reasonably necessary to cope with the emergency, to "recommend and advise the evacuation of all or part of the population from any stricken or threatened area," "control ingress and egress to and from a disaster area, the movement of persons within the area, and recommend the occupancy or evacuation of premises in a disaster area," and to exercise other emergency powers (U.C. Sec. 63-5a-3).

A "local emergency" can be declared by proclamation of the principal executive officer of a political subdivision. Declaration of a local emergency is "official recognition that a disaster situation exists within the affected political subdivision and provides a legal basis for requesting and obtaining state or federal government disaster assistance. The declaration activates the response and recovery aspects of any and all applicable local disaster emergency plans and authorizes the furnishing of aid and assistance pursuant thereto" (U.C. Sec. 63-5a-6).

Washington

Emergency management in Washington is addressed in the Revised Code of Washington, (R.C.W.) Title 38, Chapter 38.52. Section 38.52.005 places responsibility for state emergency management within the state military department. The emergency management director is charged with carrying out the state emergency management program, subject to the direction and control of the governor. The director's duties include, among other things, developing and maintaining an all-hazard state emergency plan; managing related training and public information programs; serving as liaison with political subdivisions, other states, and the federal government; managing response operations; and appointing a state coordinator for radioactive and hazardous waste emergency response programs (R.C.W. Sec. 38.52.030). The statute also provides for the Emergency Management Council, a panel of experts whose duties include advising the governor and director on matters pertaining to emergency management and arbitrating disagreements between local and state agency staff on emergency planning.

The governor is assigned general responsibility for control and implementation of emergency management functions. In a disaster beyond local control, the governor may assume direct operational control of all or part of any emergency management functions within the state

(Section 38.52.050). In carrying out emergency response functions, the governor and executive heads of political subdivisions are to use the resources of state and local government to the extent practicable but are also authorized to "command the service and equipment of as many citizens as considered necessary" in light of this disaster, but only after the governor has issued a proclamation of disaster (Section 38.52.110). The governor' s power to declare a state of emergency is described in a separate section of the code (R.C.W. Sec. 43.06.010) and after such a declaration, the governor may exercise emergency powers as enumerated in the law (R.C.W. Sec. 43.06.220).

Local governments are authorized and directed to establish local emergency management organizations. In an emergency, they are authorized to bypass normal governmental procedures for procurement, hiring, and the like in order to carry out emergency response functions (R.C.W. Sec. 38.52.070).

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ANNEX M: RECOVERY PLANNING IN AN INCIDENT COMMAND SYSTEM CONTEXT

Many communities use the Incident Command System (ICS) to organize their emergency response organization and operations. An ICS-based organizational structure may be in place as the focus of activity turns to recovery. If so, the transition to a recovery-focused effort may either continue that structure or involve a reorganization of response forces. This annex briefly addresses the relationship between an ICS-based response organization and the recovery organization and functions described in the workbook model plan.

M.1 ORGANIZATIONAL RELATIONSHIP

The ICS includes a five-part, top-level organization, with a command section overseeing a Planning Section, Operations Section, Logistics Section, and Financial/Administrative Section.

The model recovery plan in the workbook makes some very general assumptions about the organizational structure that will direct and implement recovery operations. As described in the model plan Section 2.2.6, the recovery organization is assumed to include the following groups: Executive, Operations, and Technical Groups.

Organizationally, the Executive Group as described in the model plan would likely correspond fairly closely to the Command Section found in the ICS. The Operations Group would be a coordinating group for the Operations Section under the ICS. The Technical Group, in handling functions relating to gathering and analyzing hazard information, might correspond best to the ICS Planning Section or the Operations Section, depending on details of the specific ICS organization.

M.2 FUNCTIONAL RELATIONSHIP

The main part of the model plan is devoted to planning for specific functions that are anticipated to be important during recovery from a chemical event:

Hazard assessment
Access to restricted areas
Ingestion pathway protection
Medical services
Relocation
Social services
Public information
Claims and disaster assistance
Environmental remediation

In general, these functions would fall under "Operations" in the ICS organizational scheme. Each function might be the subject of a function-oriented branch, division, group, or strike team. Therefore, the bulk of the model recovery plan would speak to the work of the Operations Section in an ICS-based organization. The Planning Section would develop plans, policies, and strategies for carrying these functions out, and the Logistics and Administrative/Finance Sections would support the Operations Section in carrying out these functions.

In some cases, particular functions in the model recovery plan might fall primarily under ICS Planning or Command Sections rather than Operations. In particular, the Hazard Assessment function involves collection and analysis of technical information, and processing it to support protective action decisions. In some ICS organizations those functions might be handled primarily under the Planning Section rather than Operations, and the actual decision making would be a function of the Command Section. Also, the Public Information function would likely be handled directly out of the Command Section in an ICS organization.

ANNEX N: ACRONYMS

AEMA	Alabama Emergency Management Agency
AR	Army regulation
ARAR	applicable or relevant and appropriate requirement
ARC	American Red Cross
ASTSWMO	Association of State and Territorial Solid Waste Management Officials
CAI	chemical accident or incident
CAIRA	Chemical Accident or Incident Response and Assistance
CDC	Centers for Disease Control and Prevention
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)
CFR	Code of Federal Regulations
CSEPP	Chemical Stockpile Emergency Preparedness Program
CWA	Chemical Warfare Agent
D2PC	An Army computer dispersion model for hazard estimation
D2-Puff™	Updated Army computer dispersion model for hazard estimation
DA	U.S. Department of the Army
DAC	Disaster Assistance Center
DA Pam	U.S. Department of the Army Pamphlet
DERP	Defense Environmental Restoration Program
DHHS	U.S. Department of Health and Human Services
DMA	Disaster Mitigation Act of 2000
DoD	U.S. Department of Defense
DODI	U.S. Department of Defense Instruction
DSMOA	Defense-State Memorandum of Agreement
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
FDA	U.S. Food and Drug Administration
FEMA	Federal Emergency Management Agency
FM	field manual
FR	Federal Register
FRP	Federal Response Plan
FTCA	Federal Tort Claims Act
GA	Tabun (nerve agent)
GB	Sarin (nerve agent)
GD	Soman (nerve agent)
GPL	general population limit

H	sulfur mustard (blister agent)
HD	distilled sulfur mustard (blister agent)
HMGP	Hazard Mitigation Grant Program
HT	mustard-T mixture (a blister agent)
IAP	Individual Assistance Program
ICS	incident command system
IDLH	immediately dangerous to life and health
IEMA	Illinois Emergency Management Agency
IPT	Integrated Process Team
IRP	Installation Restoration Program
IRZ	immediate response zone
JIC	Joint Information Center
JIS	Joint Information System
L	Lewisite (blister agent)
MCA	Military Claims Act
MCE	maximum credible event
µg	microgram(s)
NCP	National Contingency Plan
NIOSH	National Institute of Occupational Safety and Health
NPL	National Priorities List
NRC	National Response Center
NVOAD	National Voluntary Organizations Active in Disaster
OEM	Office of Emergency Management
OSC	On-Scene Coordinator
OSHA	U.S. Occupational Safety and Health Administration
PAP	Public Assistance Program
PCA	Personnel Claims Act
PIO	Public Information Officer
P.L.	Public Law
POC	point of contact
PPE	personal protective equipment
QA/QC	quality assurance/quality control
RCRA	Resource Conservation and Recovery Act
RDTE	research, development, testing and evaluation
RI/FS	remedial investigation and feasibility study
ROD	Record of Decision
RTAP	real-time analytical platform
SARA	Superfund Amendments and Reorganization Act of 1986

SBA	Small Business Administration
SBCCOM	U.S. Army Soldier and Biological Chemical Command
SRF	Service Response Force
USACE	U.S. Army Corps of Engineers
USACHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
USARCS	U.S. Army Claims Service
USC	U.S. Code
USDA	U.S. Department of Agriculture
VX	(nerve agent)

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